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**WESTERN
COLORADO
PETROGLYPHS**



ARCHEOLOGY

W.C. MCKERN

BUREAU OF
LAND MANAGEMENT
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Western Colorado Petroglyphs

by
W. C. McKern

edited by
Douglas D. Scott

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FOREWORD

There are thousands of petroglyphs on the public lands administered by the BLM. These artifacts of past cultures are one of the most visible of our cultural resources and yet one of the more neglected in the area of scientific study. Petroglyphs are difficult to interpret and date, although they continue to draw public and professional archeologists interest because they are so often enigmatic

This particular study of petroglyphs in western Colorado is over 50 years old and has never been previously published. It was produced for the Smithsonian Institution in 1922, but was lost not long afterward. The original manuscript was found in 1977 in the National Anthropological Archives at the Smithsonian Institution. This early work was a pioneering effort in the study of prehistoric rock art. Because much of this early work was done on public lands and is a pioneering effort, I feel broad public dissemination is in order.

This and other early unpublished documents contain many fine ideas that deserve more than to repose in an archive and gather dust. They can and should be working documents for our present efforts in cultural resource management.

I am pleased to make this eighth publication in cultural resources available to the public and to the professional community.

A handwritten signature in cursive script, reading "Dale R. Andrus". The signature is written in dark ink on a light-colored background.

DALE R. ANDRUS
State Director
Colorado
Bureau of Land Management

DEDICATION

To:

JEAN who found this

and

GARY who encouraged it

The Editor

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Preface

Fifty-six years ago between the months of June and October a young Will C. McKern traveled throughout Western Colorado (Fig. 1) recording and studying petroglyph sites. His purpose, as stated in his introduction to the following document, was to reach a comprehensive understanding of culture by recording every available fact. McKern believed that one fact being overlooked by anthropologists at the time was the petroglyph, and that this type of data was as deserving of study as any other. His study, which was finished in 1924, was an excellent work for its time and place. Unfortunately the work was never published and according to a letter from Mr. McKern dated February 14, 1978, the manuscript was assumed lost as no one had been able to find it since the death of Dr. Jesse Walter Fewkes. But it has now been found and this volume contains that study of petroglyphs.

McKern's original manuscript contained, besides the text, 544 tracings and drawings of petroglyphs and 33 photographs of rock art sites in Western Colorado. We have not been able to publish all of the 577 figures, but we have included a representative sample of the tracings as they pertain to each type of petroglyph discussed. The original figures had no scale, and so neither do those presented here. We have also retained McKern's original captions as much as possible. The photographs included are recent, but are representative of the sites and panels recorded in 1922. The text has been left essentially intact with only minor changes in spelling and organization of some information in table form.

Given the state of the art in 1924, the reader will find many of McKern's observations incredibly astute and perceptive. McKern dealt with three different areas of Western Colorado and by chance three different cultural elements in his study. Although some of the elements had not been recognized or named at the time of the study, McKern differentiated them on a stylistic basis and proceeded to further refine his observations by dividing elements into old and new styles. He was unable to place the petroglyphs he was working with in any sort of relative chronological framework because the information had not even been

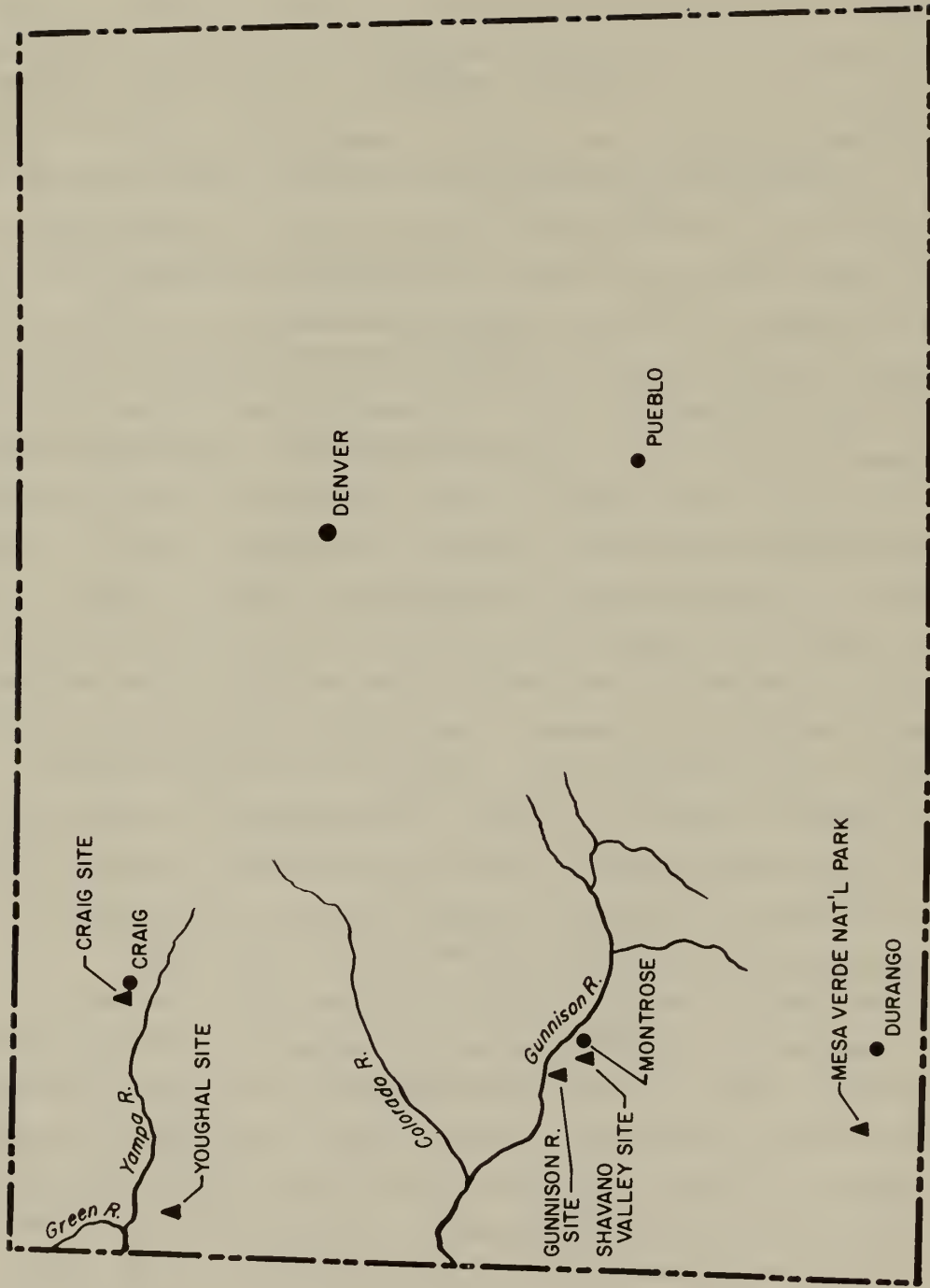


Fig. 1 Map of Colorado Showing Sites Discussed.

developed at that time. Nevertheless, most of the comparisons made by McKern about the rock art of Western Colorado have held true. Some observations have not stood the test of time, but most are based on sound reasoning and good subjective judgment and stand on their own merits. In fact many of his observations have been independently developed and are the basis of current theory on rock art.

McKern's study began in Mesa Verde National Park and then moved to sites near Montrose and finally to sites in the vicinity of Craig (Table 1). The rock art sites studied on Mesa Verde are representative of the Mesa Verde branch of the Anasazi cultural tradition. The sites dealt with can generally be dated to the late Pueblo II through the Pueblo III periods, AD 1050-1300 (Hayes 1964:88). McKern observed and identified a variety of styles and types of petroglyphs in the Mesa Verde. He separated them according to their proximity to architectural units and discussed them accordingly. McKern's discussion and identification of the Mesa Verde petroglyphs is clearly consistent with the more recent work of Hayes (1964:120) on Wetherill Mesa and Rohn's (1977:121-125) work on Chapin Mesa. McKern originally observed that certain symbols (e.g. spirals) were found correlated with structures and water control devices. He suggested these elements may have been clan and/or water signs. This observation becomes very perceptive when considering the recent work of Olsen (1977:279-292) with rock art of the Hovenweep area. He has correlated groups of symbols with archeological features and concludes that there is a definite locational relationship between rock art symbols and archeological and agricultural features.

Shifting to the Montrose area, McKern's observations continue to be astute and generally correct by today's standards. McKern dealt with two petroglyph groupings that have been defined as manifestations of the Uncompahgre complex (Wormington and Lister 1956 and Buckles 1971). The Uncompahgre complex is postulated to have a 10,000 year continuum with the rock art having its origins as early as the beginning of the Christian era. McKern's evaluation of the Uncompahgre area rock art correlates

very well with the most recent and the only in-depth study of the area's rock art by Buckles (1971:1058-1138). McKern has divided the petroglyph styles into an old and new type and Buckles (1971) has defined what he believes to be prehistoric and historic styles of the same petroglyphs. Although there are minor differences the two separate divisions correlate fairly closely with one another. McKern made no real attempt to date the Uncompahgre petroglyphs, except to point out the figures including horses were probably Ute in origin.

McKern's evaluation of the Craig area petroglyphs has no counterpart in the modern literature. Although the general consensus of opinion is that his evaluations of the sites are correct. The styles of the rock art do not correlate with known Fremont petroglyphs in the area, but they do have a general similarity to the historic period Ute petroglyphs.

McKern's work is generally full of insight and based on excellent subjective reasoning, but there is one major flaw. Throughout the text, but in the conclusions specifically, he falls into the trap of trying to explain the presence of certain types of rock art styles by diffusion. While the concept of diffusion is not a bad idea, McKern did carry it to an extreme by attempting to tie the Western Colorado rock art to that of the Eastern U.S. One cannot be too critical of this viewpoint when it is remembered that diffusionistic principles pervaded much of anthropological thinking in the late 19th and early 20th centuries (Harris 1968:373-392). The conclusions reached by McKern are inconsistent with the level of knowledge at hand today, but when viewed in the context of the period in which these statements were made, then little fault can be found. It is unfair to publish this material fifty years after it was written and then, out of context, to be very critical of its content. McKern produced an excellent study for its time and place and it is still useful to today's students of rock art if it is considered in the proper historical perspective. There has not, in fact, been another study of rock art in Western Colorado that has been as broad ranging or considered the detail to be found here. Jeancon (1926) and Renaud (1936) are the only two

others to make any serious attempt at evaluating Colorado rock art. Their studies lack the detail found in McKern and it is unfortunate that McKern's earlier work was not available to them as a reference.

The three studies taken together form a good basis for further study and analysis of Colorado rock art. The belated publication of McKern's work now makes available all three works to researchers, and it is hoped that this will stimulate further analysis of Colorado's rock art heritage.

Douglas D. Scott

TABLE 1
Modern Identification of McKern's Sites

<u>McKern Name</u>	<u>Modern Name</u>	<u>Site No.</u>
Mesa Verde		
Cliff Palace	Same	MV 625
Sun Temple	"	352
Square Tower House	"	650
Little Long House	"	647
Balcony House	"	615
Spring House	"	1406
Spruce Tree House	"	640
Far View House	"	808
Pipe Shrine House	"	809
One Clan House	"	835
Petroglyph House	Not Identified	
Camp Point Ruin	" "	
Ruin across from New		
Firehouse	Buried Cave	519
at Sun Point	Not Identified	
Head of Fewkes Canyon	" "	
Picture Cave	" "	
Shavano Valley		
Eastern Petroglyphy Site		
Group I	Shavano Picture Rock	5MN27
Group II	Split Rock Site	5MN66
Group III	Three Bears Site	5MN5
Group IV	Part of Split Rock Site	5MN66
Group V	" " " " "	5MN66
Group VI	" " " " "	5MN66
Group VII	Part of Three Bears Site	5MN5

Group 1	Possibly Part of Frank's Site	5MN6
Group 2	Unrecorded	Unrecorded
Group 3	Part of Three Bears Site	5MN5
Group 4	Part of Split Rock Site	5MN66
Group 5	Part of Split Rock Site	5MN66
Northwestern Group	Shavano Falls Petroglyph Site	5MN67
Craig Petroglyphs	The Sand Rocks	None as yet
Youghal Petroglyphs	Not identified	
Gunnison River Petroglyphs	Musser Site/Escalante Crossing Petroglyph Site	5DT4

INTRODUCTION

The Purposes of Pictograph Study

The study of pictographs in North America offers a field of research whose importance has often been underestimated by students of Anthropology. Other records of primitive culture coexistent with stone etchings or other pictographs have in many instances seemed to overshadow the latter in relative importance. This has appeared to justify failure on the part of the field observer to devote any great amount of time or effort to a work which promised such comparatively meager information for the labor involved. A doubtfully enduring race was to be physically defined before its extermination. Rapidly vanishing languages and customs were to be recorded. Archaeological remains were to be studied and preserved from vandalism and the encroachment of material civilization.

Any comprehensive understanding of a culture demands, however, that every available fact shall be included in the data considered. It is difficult to understand why a knowledge of pottery designs, for instance, basket designs, items used for personal adornment or the methods employed in concocting simple preparations of food should be more important to the student of general Anthropology than that portion of a peoples' art which is represented by pictographs.

A careful study of pictographs should be of value in ascertaining facts of a more or less varied nature. Evidence bearing upon the extent of cultural diffusion may appear in the technique and subject matter of the drawings. Crude portrayals of customs may be reasonably identified. But of even greater importance than these is the study of the pictographs themselves as an important branch of native art.

Sources of Information

The data upon which this paper is based were obtained during the months of June to October, inclusive, 1922. The field of study included the Mesa Verde National Park and sites near Montrose, Craig and Youghal, Colorado. Included in the data are careful tracings of as complete a series of petroglyphs from these districts as time and resources would allow, drawings of inaccessible figures, and many photographs.

Acknowledgments

I am deeply grateful for the sympathy and hearty cooperation of Dr. J. Walter Fewkes, Mr. J. Nusbaum, Superintendent of the Mesa Verde National Park, Mr. John H. Carter of Sunbury, Pa., Mr. R. W. Owen of Mancos, Colorado, Messrs. T. M. McKee, C. A. Block, A. Monroe and W. H. Fleming of Montrose, Colorado, Mr. Robert Curtis of Cedaredge, Colorado, Mr. R. L. White and Dr. McCandless of Craig, Colorado, and Mr. F. A. Baker of Youghal, Colorado.

MESA VERDE PETROGLYPHS

Sites

Most of Mesa Verde petroglyphs are situated at or near cliff and mesa ruins. Petroglyphs were found occurring at Cliff Palace, Sun Temple (Fig. 9), Square Tower House, Little Long House, Balcony House, Spring House, Spruce Tree House, Far View House (Fig. 3), Pipe Shrine House (Fig. 6), One Clan House, and at three small nameless ruins. One of these, termed Petroglyph House in this paper, is situated in a crevice in the cliff face immediately above the summit of the talus slope at the northern point created by the juncture of that portion of Navaho Canyon adjoining Spruce Tree Camp with the main canyon. Of the second small ruin only a few stone remain in place. It stands at the top of the talus slope at the mesa point directly south of Spruce Tree Camp. Hence the name Camp Point Ruin used herein. The third ruin consists of a small crib-like arrangement of stones. It is situated in a large cave directly across the canyon from New Fire House.

Petroglyphs independent from any building were found at the head of Fewkes Canyon, at Sun Point, and in a large cave situated at the head of a small tributary branch of Little Navaho Canyon. This cave, termed Picture Cave in this paper, is not more than one-half mile north of Spruce Tree Camp.

Techniques of Workmanship

Figures are engraved on the rock by process of pecking, drilling, scratching or grooving.

Pecking

The process of pecking consisted of striking the surface of the rock subject to treatment with a pointed instrument to produce dots, lines or solid areas of rough indentation. The tools used for this work on the Mesa Verde have not been definitely identified among artifacts observed from that province. They probably consisted of pieces of quartz or similarly hard stone held in the hand of the artist. The soft fine sandstone upon which the petroglyphs occur offers a surface easily marked by the crudest of instruments. The failure to find any definitely shaped implement that would serve as a pecking tool suggests that it was Eolithic in type. Many naturally shaped stones which show evidence of having been used and which could have served for pecking are to be found about the cliff and mesa ruins.

Drilling

Small drilled holes sometimes constitute a part of the artistic motif or occur isolated singly or in more or less regularly organized groups. That these were produced through the agency of a drill is conclusively shown by their symmetry of outline and continuously uniform diameters. Some of these holes have convex bottoms or have small cores projecting upward from the bottoms. These were evidently drilled by means of some hollow implement such as the wing bone of a bird. Others were apparently made with a more sharply pointed drill.

Scratching

The technique of scratching was produced by drawing a pointed instrument across a stone surface to engrave a fine shallow line or to produce a solid area of design by means of a complexity of lines.

Grooving

Grooves differ from scratchings in that they are much deeper and more carefully made. The process of scratching was a hasty and careless one; that of grooving a laborous, time-consuming industry resulting in a clean cut and lasting figure.

No artifacts have been found that can be positively identified as the tools used for drilling, scratching or grooving. On the other hand a variety of artifacts primarily adapted to other uses could have been adopted to serve as the gravers in the case of all three techniques. Some of these tools are discussed elsewhere.

Subject Motifs

Mesa Verde petroglyph designs may be classified as belonging to one of five groups, arranged in order from the simple to the more complex. They are (1) spots, dots and straight lines, (2) straight lined conventional figures, (3) curved lined conventional figures, (4) foot and hand outline forms, (5) naturalistic animate figures. A few figures appear to be complexes of two or more of these groups. There remain several figures which are to be doubtfully identified as belonging to any definite classificatory group, due usually to a careless execution resulting in a vaguely shaped product.

Spots, Dots and Straight Lines

Spots are to be defined as differing from dots primarily in point of size. Spots are normally produced through a pecking technique; dots, through a drilling technique.

Spots occur frequently but a single example will serve here to illustrate (Fig. 2). Deep channels associated with, often connecting, spots are of common occurrence.

Dots normally occur in groups of two or more. The combination of two dots, one larger than the other, placed very close to each other and independent from other figures was noted in several instances.

Often dots occur in loosely but definitely organized groups (Fig. 4a). The primarily apparent scattered disposition of dots on a stone from Far View Ruin appears upon close inspection to consist of three small central dots in a horizontal line partly enclosed by a surmounting arc formed of five large dots. The remaining three dots do not seem to fall so readily into an organized arrangement. Nevertheless the central scheme is too apparent to be accidental.

Not infrequently dots and spots are found associated with other figures (Fig. 4d).

Straight lines are elements with which a much more complex type of design can be produced. They sometimes occur singly but more frequently are to be found in groups. The most simple arrangement consists of a series of roughly equidistant parallels (Fig. 4c). Parallel lines in a relatively diagonal position affords variety. An advanced step in complexity combines a series of diagonal parallels with a numerically equal series of perpendicular parallels (Fig. 4b). This begins to involve the ideas of numerical proportion and directional balance necessary to simple geometrical design.

Straight Lined Conventional Figures

The consideration of associated lines of diverging direction brings us to discuss another simple trend of progress toward geometrical design, that offered by converging lines.

Simple units of design: If two lines converge and extend each beyond the point of convergence they form a cross, one of the most simple of elemental units of design. Many crosses are found on the

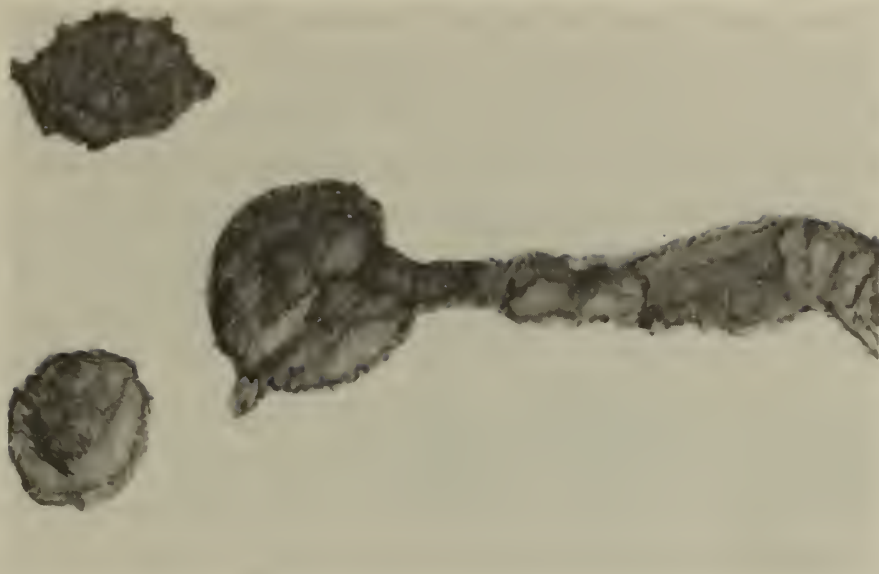


Fig. 2. Loose Building Stone From
Far View Ruin.



Fig. 3. Far View Ruin.

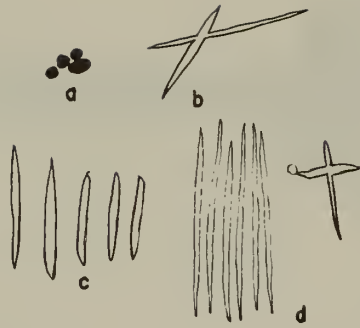


Fig. 4. a. Loose Building Stone, b. North Wall of Large Kiva, c. Wall Stone, all from Far View Ruin, d. Natural Surface, Balcony House.



Fig. 5. a. and b. Loose Building Stones, Far View Ruin, c. Loose Building Stone Pipe Shrine House.

Mesa Verde. Most of them are rectangular in type. They range in point of execution from crudely pecked figures to clean lined, well balanced motifs. A rather doubtful example of a double cross may rather be a crude attempt at an anthropomorphic or human figure. The noticeable curve of two opposing arms on two of these crosses (Fig. 5a) would seem to be too regular to be explained as resulting from imperfect execution. Both of these crosses are pecked, however, and the pecking technique undoubtedly lent itself to straight line production with more difficulty than did that of grooving.

Of a simplicity similar to that of crosses are the so-called "turkey track" figures. These occur plentifully and offer a considerable variety in organized grouping, degree of artistic execution, and form.

Not a few occur alone or associated with other figures. Others are grouped in such a manner as to suggest bird tracks. Some are grouped in pairs, side by side, a position which might or might not suggest bird tracks. The repeated association of "turkey tracks" with dots, long connecting lines, or both, is worthy of note. The heel or posterior toe of some of these figures seems remarkably long to conform to the "turkey track" interpretation. One figure lacks the posterior toe. Another figure adds new lines to the common pattern of three converging lines and assumes quite a botanical appearance.

Poorly organized complexes. A great many petroglyphs consist of from several to many straight lines crossing each other, haphazardly in some cases, following a definite plan in others.

In some cases a few lines are compounded to form "V" shapes, ill proportioned crosses and other line groupings that show no evidence of a definite aim on the part of the producer (Fig. 7). A few more complex patterns seem to reflect a more definite idea in the mind of the artist, but remain decidedly lacking in finished form.

Checked patterns. A much more highly organized disposition of lines results in checked patterns. In one instance the vertical lines are broken to form a design suggestive of a wall of masonry (Fig. 8a).



Fig. 6. Pipe Shrine House.



Fig. 7. Exterior Stone Southwest Corner Wall, Far View Ruin.

It should be remembered here, however, that the stone masonry on the Mesa Verde, while excellent in many respects, does not show a builder's knowledge of the practical value of breaking the joints in a wall. A combination of diagonally placed checks with a line or series of parallel lines intersecting check corners results in a very pleasing pattern (Fig. 8b). One type of figure, a simplified check motif, resembles a naturalistic representation of a ladder (Fig. 8c).

Quadrilaterals and T-shapes. A uniform checkered motif lacks design strength. It possesses the quality of organization lacking in a haphazard complex of lines, but gains this asset at the expense of character. A superior order of designs shows a combination of organization and unit character. These are quadrilaterals and similar simple angular forms.

Single quadrilaterals are not of common occurrence. The few examples found show an apparent tendency to extend the sides of such figures beyond their points of intersection with adjoining sides. Only one positive instance was noted where the outside angles formed by such side extensions were closed by means of diagonal lines (Fig. 10a). Even here the perfect figure suggested lacks completion, a condition probably due to weathering.

T-shapes, suggestive of the T-doors present in many of the cliff houses, do not occur as frequently as one might expect. As a rule they are very simple outline representations. One offers the peculiarity of being placed in an inverted position, the broad horizontal portion of the figure occurring at the bottom. It has been suggested to the author that the incomplete outline of this figure may be due to the artist's tardy realization of its wrong position. This seems improbable since similar inverted figures have been described elsewhere from other southwest provinces. Figure 10b shows an example of the T-shaped design which is quite superior to the others in both accuracy of proportion and neatness of execution. The T-shape is here compounded with horizontal lines which may represent roof beams above a T-doorway (Fewkes 1922:113). In any case the decorative possibilities of such an arrangement of figures is evident.

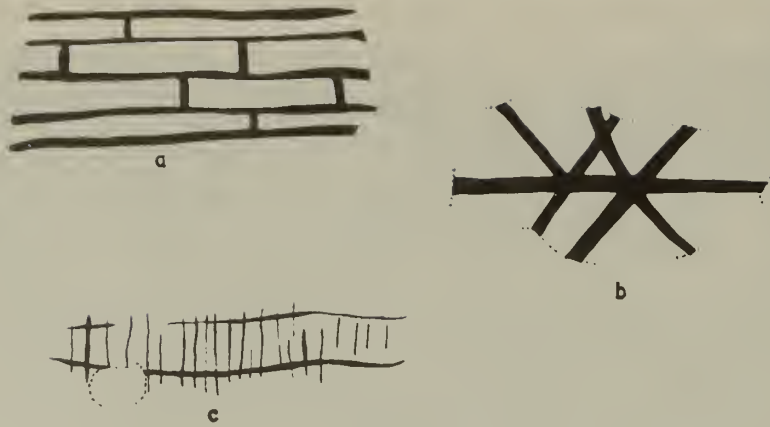


Fig. 8 a. Loose Building Stone, Sun Temple, b. & c. Loose Building Stones, Far View Ruin.



Fig. 9 Sun Temple

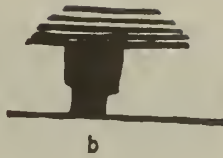


Fig. 10. a. Loose Building Stone, Far View Ruin,
b. Loose Building Stone, Pipeshrine House.

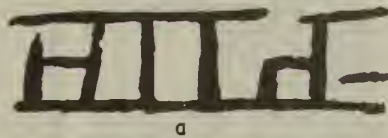
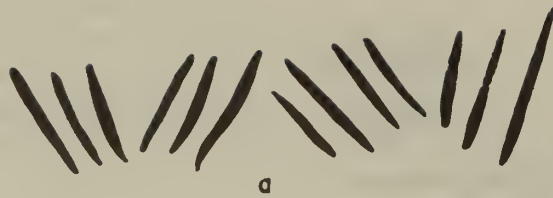


Fig. 11. Loose Building Stone, Pipeshrine House



a



b

Fig. 12. a. Wall Stone Sun Temple, b. Loose Building Stone Far View Ruin.

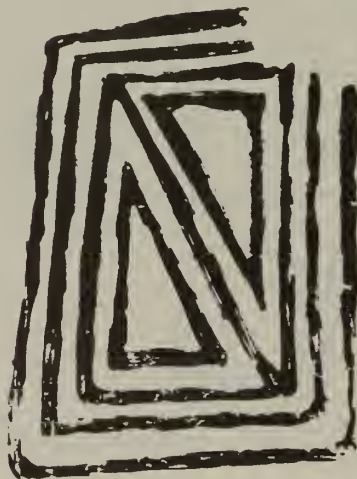


Fig. 13. Loose Building Stone, Sun Temple.

Rectangle series. Complex figures with a rectangular tendency are due to receive attention. They are few in number but interesting. One consists of a ladder-like figure with enclosed, similarly placed rectangles. Beside it is a double rectangle, one enclosed within the other, bearing some resemblance to a highly conventionalized form of the Hopi friendship sign sometimes seen as a Mesa Verde pottery design (Fig. 11). Another figure groups four rectangles end to end and places in one of these rectangles an unmistakable geometrical conventionalization of the friendship sign. A third introduces geometrically treated waving lines, or zigzags. This design has a nice simplicity and remarkably clear-cut strength. All have been eliminated save those few lines necessary to produce a desired artistic effect, and these few lines are confidently bold.

Acute angle series. A more numerous series of straight-lined designs make exclusive use of complementary and alternating acute angles. Two lines meeting to form an acute angle do not make a very striking figure, but two such angles of like size and direction, placed side by side, produce a more pleasing effect. This effect becomes more positive when many lines enter into a well balanced complex of acute angles (Fig. 12a).

Two others offer examples of a curious conception of artistic balance. Each consists of a series of three alternating acute angles, two opening upwards and that one centrally placed opening downwards. To be well balanced, in conforming to the general plan of the design, each angle should be bisected by one of three vertical lines. Then the figure would suggest a decorative series of alternating "turkey tracks." But only two of these angles, in each case the same two, are so bisected. The fact that these two petroglyphs are identical in design, although occurring in different ruins, would seem to positively argue that they represent a definitely exact and complete design rather than a haphazard association of lines.

Two acute angles of like direction, one enclosed within the other, suggest a new course of development for angular complexes. This disposition

of lines constitutes a relatively important theme in Mesa Verde petroglyph art. Two complementary sets of such double angles comprise the next step in complexity. Then follows, in order of complexity, a compounding and alternating of such units of design to result in a cumulative pattern entirely covering the available surface, one face of a building stone (Fig. 12b). The tendency finds its most perfect expression in a simplified, perfectly proportioned and balanced motif suggestive of a fret.

Rectangle and acute angle complexes. A combination of the rectangular design technique with that making use of alternating acute angles results in a still finer pattern introducing the triangle. In figure 13 the fusion of the two techniques has been quite successfully accomplished.

Curvilinear Figures

Curved lines are extensively employed in Mesa Verde petroglyphs. Sometimes the resultant figures are very crude (Fig. 14), but usually they reflect a considerable amount of care and an appreciable degree of ability on the part of the producer.

Waving lines. The simple curve may be compounded to form waving lines or projected to form a circle and these two forms, the waving line and the circle, are perhaps the most primarily apparent units of curved design.

A single example of the curved equivalent for the zigzag motif is found. It consists of three waving lines closely intervalled and extending parallel with the curved fluctuations in each line complementary to like fluctuations in the accompanying lines.

Circles. Only one single circle was found, but several examples of concentric circles occur (15a).

Spirals. Spirals constitute a favorite Mesa Verde motif judging from their numerous and widely distributed occurrence. Most spirals consist of coils regularly expanding from a central dot, each coil maintaining a standard interval from the preceding coil (Fig. 15b). In two instances the spiral begins with a small centrally placed circle, but this may be due to an accidental breaking down of the interval between coils. Spirals

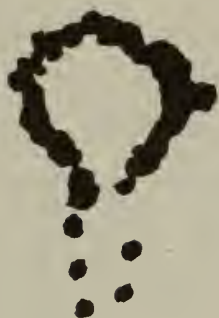


Fig. 14. Natural Surface in Cave Opposite New Fire House.

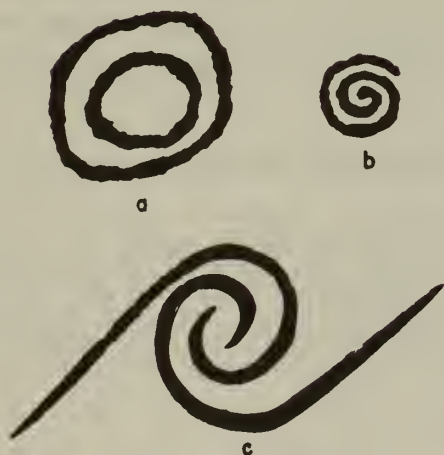


Fig. 15. a. & b. Natural Surface, Petroglyph House, c. Inside Wall, Far View Ruin.

observe no apparent rule governing the direction of turn; some follow a clockwise direction, others a counterclockwise direction.

A connected series of spirals is attempted in one case although it never involves more than two spiral units. In another case the two connected spirals are clearly executed, one curved, the other geometrically treated. One, despite its complex appearance, is essentially a similar spiral couplet. A third figure following this pattern is additionally embellished with curved flourishes, one at either end.

The intercoiling of two curved spirals to form the "friendship sign" is represented in a single instance (Fig. 15c). A geometrically treated "friendship sign" has been described above.

Summary of Conventional Designs

In summary, conventional designs are chiefly represented by crosses, "turkey track" figures, checked patterns, T-shaped figures, series of alternating acute angles, complexes of acute angles and rectangles, concentric circles and spirals.

"Turkey tracks" and T-shapes have been included with conventional designs, despite their possible realistic tendencies, because of their simple geometric treatment and undoubted decorative value.

Foot and Hand Outline Forms

Representations of feet and hands occur at a few sites. Most of these were found at one location. They are all of the impression type and treated solidly rather than in outline. The number of digits is in every case normal (Fig. 35d).

Animate Figures

Pictures of natural objects are relatively plentiful in this province but are rarely good when compared with conventional designs. Those few showing a commendable amount of skill are widely separate from the average

in both grade of workmanship and style. With the exception of T-shapes, probably the representations of house doorways and "turkey tracks," some of which may represent bird tracks, all those figures that can be reasonably identified as naturalistic are animate in theme.

Snakes. A few snakelike figures are crudely suggested, a dot or circle representing the head and a waving line the body (Fig. 16a).

Vague animal forms. Some forms, representing animals in all probability, are too vague in outline to warrant naming. Fig. 16b suggests some animal with a large udder, or the sub-posterior pendants may represent the legs of a nursing offspring. The ragged execution renders such speculation hardly profitable. One is probably the picture of a deer, judging from the antler-like appendages. Two others, occurring side by side, resemble lizard-like animals.

Birds. Four of the five bird pictures were found at one site (Fig. 46c). They follow a very uniform plan of pattern, even as to the number of tail feathers represented, and are probably the work of a single artist. These birds are represented as standing or walking and lack any indication of wings. The emphasis so placed upon their use of feet rather than wings may imply a domestic bird such as the turkey. A fifth bird picture is more simply and less realistically done but emphasizes the same pedestrian attribute of its subject.

Sheep. Mountain sheep are pictured at a single site. A large sheep in figure 16d is poorly executed with the front and rear legs placed so close together that the animal is made to resemble a biped. A small sheep above a larger one, which appeared upon close inspection to be a separate and independent drawing, is better though carelessly done. Though essentially a straight lined figure, it escapes from the angular effect dominating the larger representation. Another sheep is better than the large animal in figure 16d, but quite inferior to the smaller.

Anthropomorphic and human forms. Human figures are not always easily identified. The anthropomorphic tendency probably sometimes supplies animal representations with human traits, especially the erect

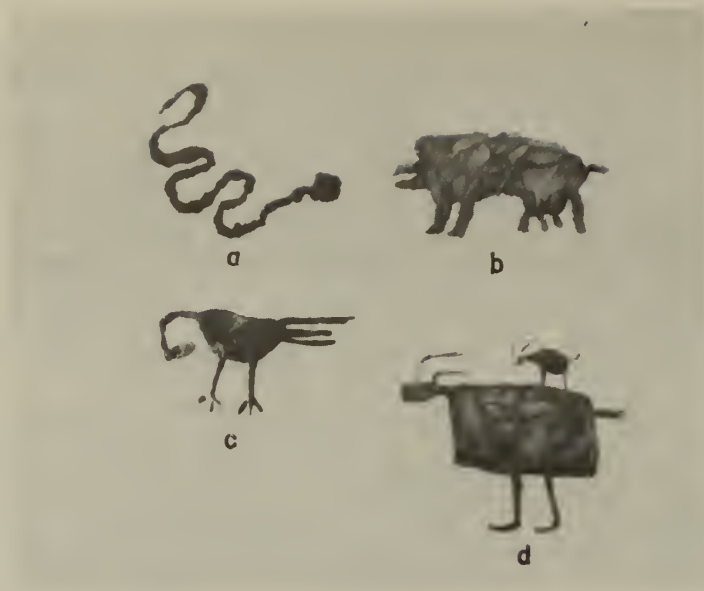


Fig. 16. a. Natural Surface, Camp Point Ruin, b. Natural Surface, Picture Cave, c. & d. Natural Surfaces, Petroglyph House.



Fig. 17. a., b., & c. Natural Surfaces, Picture Cave, d. Natural Surface, Petroglyph House.

position. On the other hand, figures may propose to picture humans masked to represent animals.

Some very crude efforts portray a figure with a head, body, arms and legs, all of which basically resemble the physical attributes of man more than those of other animals. A small hole pecked at the base of the body in figure 17a is graven deeper than is the remainder of the worked surface of the figure. It may be a symbol indicative of the female sex.*

Two figures, judging from the large apparent tails, seem to be pictures of animals, although they are closely associated with unmistakably human figures.

Two figures (17b) have the erect position but are supplied with long pointed faces and prominent tail-like appendages. The deeper indentation at the base of the body in each of these figures, outlined by the broken white line, may again serve as female sex markers.

Two others show more definitely pictured hands and feet. The figure in 17c has an appendage falling from the neck or shoulders which may represent a necklace or boa. Both figures are supplied with what resembles the erect penis.

One petroglyph in figure 17d suggests violent action, such as that engaged in by a dancer, while figure 18 shows well-developed feet and hands, and feathers, tremblers or similar ornaments surmounting the head. The appearance of clothing may rather be an angular treatment of the body.

One of the most interesting petroglyphs in the province pictures a seated figure with a large hump on the back (Fig. 19a). Both hands are employed in holding some long slender object which projects downward from the head. The interesting feature of this picture from an artistic standpoint is the portrayal of a human figure in profile (see also Fig. 19b).

* It appears to the editor that most of these male figures have phalluses rather than tails and the deeper portions of the petroglyph probably represent the navel.



Fig. 18. Natural Surface, Picture Cave.

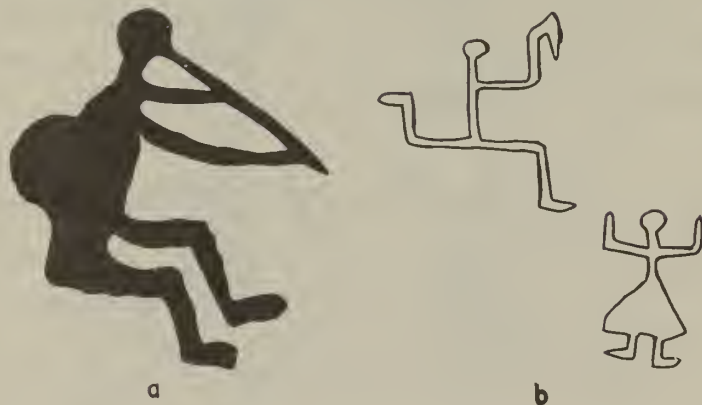


Fig. 19. a. Natural Surface, Petroglyph House, b. Natural Surface, Sun Point.

Two figures (18b) are uniquely prominent in that they are human representations done by means of the grooved technique. Although quite remotely situated from each other, they are very similar in style. They are both geometrically conventionalized. Both represent the body by a single line. Both portray the limbs in rectangular position. This similarity may be altogether due to the grooved technique employed. One is interpreted by the author to picture a woman, assuming the deeper depression at the base of the body to be a female sex marker and the points projecting laterally from the body to represent breasts. The lateral projections from the head suggest a form of hairdressing similar to the whorls commonly worn by girls in some of the existing southwestern tribes. Figure 19b shows a human form in profile, in a running posture. A pointed object is held in the hand. Below this representation is pictured a standing figure apparently clothed in a skirt or kilt. The profile position, the portrayal of action, and the adding of such details as dress and breasts, providing these interpretations are correct, give these grooved figures superior artistic qualities. None of the human figures pictorially present on the Mesa Verde are so realistic as to cause grooved figures to artistically suffer because of their geometrical treatment. They are equaled among human portrayals, possibly excelled, alone by the picture shown in figure 19a.

Unclassified Figures

There remain for descriptive consideration certain petroglyphs which do not easily fall into any logical plan of classification. Some of these are vaguely outlined and carelessly done; others are radically unique in their motif and stubbornly unintelligible. It would hardly be profitable to discuss each of this unclassified group of pictures. Some, however, seem worthy of attention.

One example (Fig. 20a) has one straight side, connecting rectangular corners, and an opposite curved side. The whole is cut up into several sections. The only importance of such a drawing must lie in its interpretation which is discussed in a more fitting place.



a



b

Fig. 20. a. & b. Natural Surface, Petroglyph House.

Figure 20b approaches more closely to the maze type of petroglyph motif, frequently occurring in other southwestern provinces, than any drawing seen on the Mesa Verde. It differs from the maze in the closed nature of so many of its compartments. The impression persists that such pictographs resemble nothing so much as an attempt to fill an area enclosed by a circle with an unorganized series of rambling and meaningless lines. The whole might be considered to possess a certain decorative value. Such figures could have been arbitrarily elected to convey a meaning the secret of which depends upon evidence which for the most part will remain hidden from the observer.

Another presents a remarkable complex of lines to have no particular meaning. It is hard to conceive of the producer expending his time and energy at such pains without the guidance of a definite idea and purpose. Such an idea is not, however, readily apparent to the uninitiated eye. The drawing does not resemble a conventionalized design. Its decorative value is indifferent. In such cases it seems safe to assume that the recording of some purposeful meaning must have motivated production.

Yet another invites speculation which does not meet a ready reward. The apparent eyes suggest an animal subject yet all the lines do not seem to fit such a definition. Its striking outline is in any case worthy of attention.

A petroglyph from Pipe Shrine House shows a figure that is interesting from two points of view: First, the technique of workmanship is irrelevantly fine. The two dots are drilled to a depth of about one quarter inch. The parallel grooves are of like depth. Dots and grooves are finished with elaborate care to produce very smooth surfaces gradually rounding from the deepest parts to meet the vertical sides. In other words, extraordinary pains were taken to engrave the most simple of figures. Second, the motif, two parallel oblongs above two dots, although unique among the observed petroglyphs of the Mesa Verde, is common elsewhere in North America.

A glyph from Far View House presents an outline which in the original confined a raised figure, an apparent attempt at bas-relief. No other

instance at even so crude a bas-relief was observed in this province, although pieces of sculptured stone have been found (Fewkes 1923: 99-101). The figure is extremely simple and of conjectural import. The raised portion offers a carefully pecked surface; the area surrounding it has been first pecked and then polished, since the deep peckings are apparent despite the polishing. Polishing has not been included in a preceding paragraph regarding techniques of workmanship because of its single occurrence in this province in connection with petroglyphs and because the figure involving its use is not a petroglyph according to usual definitions.

In summary it may be said that the subject matter of Mesa Verde petroglyphs is rich in conventional design and relatively poor in naturalistic representation, though offering a few comparatively good examples of the latter.

Situation

The petroglyphs occur (1) on natural rock surfaces not associated with dwellings, (2) on natural rock surfaces immediately associated with dwellings, (3) on building stones or loose dressed stones associated with buildings. Of the 176 petroglyphs herein recorded, 21 occur on natural rock surfaces approximate to houses and 100 on dressed stones either in place in the existing walls or present in the debris of ruined walls. From this it may be seen that the vast majority of drawings were inscribed on building stones.

Technique and Location

The relation between technique of workmanship and location is interesting. Twenty of the 21 figures situated away from dwelling sites were pecked. The exceptional one was grooved (Fig. 19b). Of those figures found at house sites 33 were pecked, 36 scratched and 80 grooved. Many, consisting exclusively of dots or of straight grooved

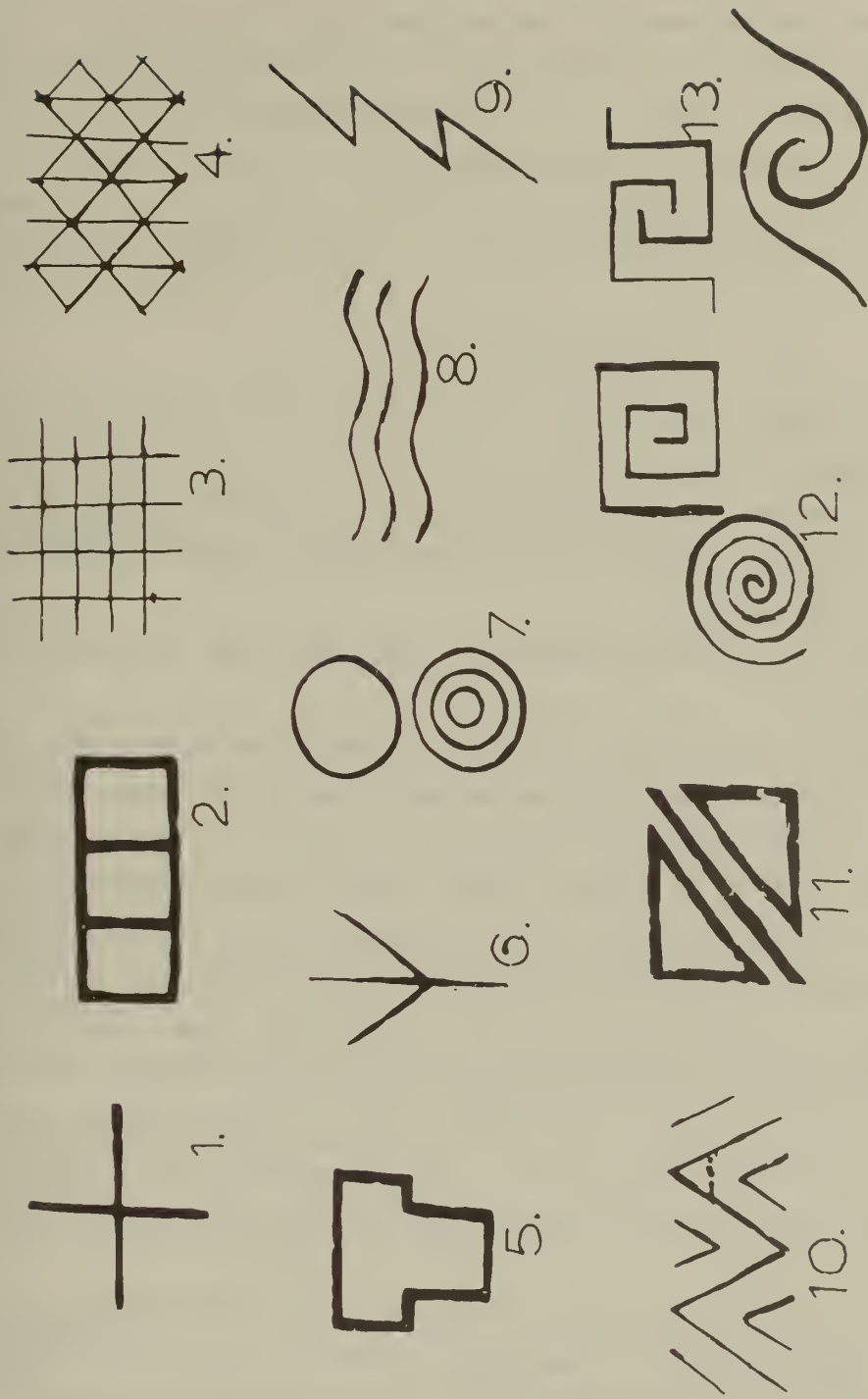


Fig. 21. Motifs Found at Mesa Verde.

lines, so simple that it seemed best to reproduce in this paper only a few representative examples, were found at building sites. Most of these occur on building stones. In all, 36 petroglyphs were scratched, 53 pecked, and 81 grooved. It is therefore noteworthy that practically all drawings distant from houses were pecked, that more than half of all the drawings associated with houses were grooved, and that nearly half of all the petroglyphs observed on the Mesa Verde were grooved.

Motif and Location

The relation between design motif and location deserves mention. Dots and single grooved lines occur plentifully at house sites both on building stones and on nearby surfaces. The remaining order of occurrence is more clearly presented by the following chart (Table 2) than could be accomplished in words.

A study of the above listed facts discloses the following points of interest.

No motif is exclusively situated distant from house sites. A majority of the motifs, including series of parallel lines, tridents, checked and criss-cross patterns, quadrilaterals, T-shapes, series of acute angles, series of complex angles, spirals and friendship signs, are found exclusively associated with houses. Only two crosses were found at houseless sites and they are so crudely executed that their definition as crosses may be far from the point. There remain, of the lot of pictographs not associated with houses, one instance of concentric circles, one hand outline, one foot outline, two indeterminate motifs and fourteen animate conceptions. Thus few motifs occur distant from house sites, and by far the greater part of these few are animate in subject.

Three motifs are not found on natural stone surfaces associated with houses. They are series of rectangles, series of acute angles, and rectangle and acute angle complexes. Animate subjects and representations of hands and feet are here numerically in the lead. Grooved figures are rare but scratched figures numerically exceed pecked figures. Thus

TABLE 2

Motif and Order of Occurrence of Mesa Verde Petroglyphs

Motif	Location	Free Surfaces				Associated Surfaces				On Building Stones			
	Technique	Pecked P.	Grooved G.	Scratched S.	Total T.	P.	G.	S.	T.	P.	G.	S.	T.
Series of Parallel lines							1		1		6		6
Crosses		2			2	1	1		2	2	5		7
Tridents						2	1	2	5		15		15
Checked and criss-cross							2		2		18		18
Quadrilaterals							1		1		3		3
T-shapes								5	5		2		2
Series of rectangles											3		3
Series of acute angles											12		12
Series of complex angles											3		3
Circles and concentric circles		1			1	2			2	2			2
Spirals						1		2	3	8	2	2	12
Foot and hand forms		2			2			7	7				
Animals		2			2	3		10	13	4	1		5
Anthropomorphous and human figures		11	1		12	1	1	1	3				
Indeterminate figures		2			2	3		7	10	4	3		7
Totals		20	1		21	13	7	34	54	20	73	2	95

pictures on rocks adjacent to houses show a considerable variety in subject matter and superior workmanship when compared with the pictures at houseless sites. Animate figures are again in the majority and display a higher degree of skill than is exhibited by other figures.

With two exceptions all classes of motifs are present on building stones. The exceptions are representations of hands and feet and human figures. Animate figures are however rare. Of 100 pictographs found on building stones only 5 are animate, and these all occur at one site, Far View House. Checked and criss-cross patterns outnumber all other motifs, with tridents, series of acute angles and spirals respectively following in numerical importance. Grooving is here the usual method of workmanship employed. Thus petroglyphs on building stones present nearly all motifs found in the province, though animate figures are very rare and conventional designs are given a decided preference. The most elaborate conventional designs occurring on the Mesa Verde are exclusively found on building stones. Grooving seems to be the usual method of workmanship employed to produce straight lined figures while curved lines are more commonly produced by means of pecking.

Local Peculiarities

Three sites stand out as artistically superior to the others, judged on the basis of petroglyphs occurring there. They are Sun Temple, Far View House and Pipe Shrine House. The finest examples of crosses, series of rectangles, series of acute angles, and complexes of rectangles and acute angles are found at Sun Temple. Far View House excels in simple quadrilaterals, checked patterns, and exhibits the best of the two examples of the friendship sign found occurring in the province. It shares with Pipe Shrine House superior spirals. Pipe Shrine House offers the best T-shaped figure, tridents and complex spirals. Petroglyph House deserves mention as excelling in animate figures.

Different sites show marked individuality both in petroglyph subject matter and in the treatment thereof. Practically all the Sun Temple pictures are carefully finished conventional designs of a decorative nature. They observe a grooved technique. Pipe Shrine House and Far

View House are alike in their presentation of checked and criss-cross patterns, spirals, tridents and a few good examples of acute angle designs. Petroglyph House furnishes more than half of all the lower animal representations found in the province including the only likenesses of mountain sheep. These animal conceptions are invariably scratched rather than pecked or grooved although many of the inanimate subjects at the same site are pecked. Five of the seven T-shapes found on the Mesa Verde occur at this site. The only petroglyphs found at Spring House are representations of human feet. They include six of the total of seven foot forms occurring in the province. The technique of workmanship followed is that of scratching. At Square Tower House there are some long zigzags, not present elsewhere, some crude complexes of circles, and lines too large to be conveniently traced, and a unique representation of a deer. Cliff Palace and Spruce Tree House are chiefly marked by a scarcity of petroglyphs. The figures in Petroglyph Cave are crudely pecked representations of animate subjects insofar as they allow interpretation. The style of these pictures is noticeably different from that of other Mesa Verde petroglyphs. Individuality is apparent at other less important sites.

Purposes

Primitive art need not necessarily possess a meaning deeper than is superficially apparent. Where there is a considerable series of drawings, representative of a single province, available to the student, the purposes underlying production may range to include haphazard scratchings, such as the irresponsible work of the unskilled novice, markings serving practical purposes, realistic illustrations, conventional decorations, symbolical figures, and idogramatic attempts. Some pictographs will readily fall into their proper places of classification; others will remain problematical of purpose with points of evidence indicating one or more possible uses. Where such points of

evidence are nothing more than shreds of suspicion, it becomes unprofitable to lengthily debate purposes.

Mallery (1893:25-26) defines picture writing as "a mode of expressing thoughts or noting facts by marks which first were confined to the portrayal of natural or artificial objects." But of course all pictographs do not rate classification under the head of picture writing. The first portrayals of natural or artificial objects, for instance, are apt to be well interspersed between the actual attempts at writing or may dominate to the practical exclusion of any intended record. The tendency to treat all primitive picturing as attempted chronicles or graphic symbols, where followed, has done much to discredit the scientific worth of pictograph study and has tended toward discouraging serious research on the part of trained archaeologists.

Irresponsible Products

It is impossible to determine that any pictograph is nothing more than the meaningless product of irresponsible effort. It is, however, highly probable that the seriously artistic undertakings of purposeful men were indusive to a purposeless use of the artist's tools, done in much the same spirit as that which prompts a boy to test the efficiency of a new knife on a stick of wood. The resultant product of such labor does not matter and is accidental rather than planned. Some of the petroglyphs in this province very probably owe their origin to similar careless motives. Although they cannot be isolated and labeled as such, a type which may belong under an irresponsible classification is represented in this study (Fig. 7).

Products of Practical Origin

Practical purposes for some figures are suggested by odds and ends of evidence. A common method employed to sharpen bone and antler implements such as awls, a method well known in the primitive Southwest, consisted of rubbing the implement upon any convenient sandstone surface. The process resulted in straight grooves cut into the sandstone. Many of the straight grooved lines on the rocks and artificial walls of the Mesa Verde may owe their origin to similar practical pursuits. The extensively marked and polished nature of rock surfaces in a large cave directly opposite New Fire House in Fewkes Canyon proves beyond a doubt that the inhabitants used sandstone as a tool sharpening agent.

It is not improbable that some of the more simple compounds of straight lines may likewise be the product of such practices. When grooves become too deep to best serve the purposes of the tool sharpener, new grooves are started. These may quite innocently of intent take a direction suggestive of design. Carelessly associated lines have a way of suggesting forms existing in the mind of the observer. Such suggestions might have led to a completing of the form brought to mind in which case the finished product would be a complex of lines resulting from the grinding of tools compounded with lines contributed by consciously artistic effort. Such a possibility increases the difficulty which one encounters in attempting to determine the true amount of seriously designed preconceived material present in the total quantity of petroglyphs to be observed.

A certain class of deeply cut grooves, channels and cup-like pits may have served as apparatuses used in the playing of certain games known to Southwest ethnologists. The simplicity of these indentations in most cases would hardly warrant tracing. They usually occur on the horizontal surfaces of naturally shaped and disposed stones. At Square Tower House they were observed on one large stone disposed in regularly intervaled parallel rows. These latter are not unlike the so-called cup symbols of petroglyph sites in various parts of the world.

Count Registration

Various methods of registering count are practiced among primitive peoples such as notching sticks and knotting cords. Regular series of parallel lines present among Mesa Verde petroglyphs in some instances suggest such a numerical representation (Fig. 4d). This interpretation is advanced merely as a decidedly evident possibility. A use of similar markings for registering count has been reported occurring at San Marcoo Pass, California (Mallery 1893:62).

Natural Illustrations

Attempts to illustrate natural objects are more numerously represented. They include pictures of anthropomorphic forms, animal forms, and representations of turkey or other bird tracks and of T-doorways are possibly to be included. Figure 20a may be the plan of a D-shaped building such as Sun Temple. Other figures which are not easily interpreted may be attempts at natural illustration. Any of these shapes may be intended to signify something not at all apparent to the uninstructed eye, but it seems sensible to suppose that at least some have no peculiar symbolical or other significance.

Conventional Decorations

Conventional decorations are plentiful. They have been listed above as crosses, checked and criss-crossed patterns, quadrilaterals, rectangle series, acute angle series, acute and rectangle complexes, circles and concentric circles, spirals, and friendship signs. Some of these may have been executed to convey a meaning now lost to us, but in any case their decorative value is evident. Many of these figures are in fact so positively ornamental in character and so doubtfully of any additional importance that this paper will treat them exclusively as conventional decorations. These include some checked patterns (Fig. 8a), some criss-crossed patterns, all rectangle series, all acute angle series, all

acute and rectangle complexes, and one spiral. These have been selected because they share common peculiarities which tend to group them as decorations. They all occur on building stones. Each completely dominates one entire surface of the stone it decorates. Each consists of a more or less complicated motif whose apparent purpose is to beautify the surface it covers.

There are other figures which comply with one or two of the conditions but are lacking in some particular which excludes them from being listed with reasonable certainty in the above group.

Perhaps the most prominent feature of wall decorations, aside from their ornamental traits, is their dependence upon the shape and size of the surface they decorate. In some instances the design has no independent completeness but is cut off from further expansion by surface boundary lines. Here the purely decorative tendency to avoid blank spaces is paramount. The design itself must suffer if necessary to conform to the limitations of the decorated area. Perhaps the most remarkable instance of this is shown on a loose building stone from Pipe Shrine House where a spiral is made to cover a given surface at the expense of sacrificing a good portion of its lineation.

While the remaining figures in this group are more or less complete within the boundary limits, their general shapes are largely determined thereby and the central dominance of each over its ascribed surface is pronounced.

Picture Writing and Mnemonics

A paucity of evidence prevents any intelligent discussion of Mesa Verde picture writing as revealed in its petroglyphs, or in regard to picturing for mnemonic purposes; to register chronology, titles, names, religious or ceremonial symbols, shamanistic signs, exploits; to post notices, warnings, directions; to portray routine habits and customs; to record notable events in local history, mythology or tradition. Picturing designed to fulfill one or all of these purposes may be present

on the Mesa Verde, but the interpreter is gone. A careful comparative study of these pictographs and of more modern pictographs of known import which are situated in near neighboring provinces would undoubtedly shed some light upon the matter. However the means of making such a study have not been afforded the author and are in any case rather obscure.

Symbolism

It would be extraordinary if a symbolical use of petroglyph art were proven to be entirely lacking in this province when its cultural affinity to the existing Southwest culture area and the importance of graphic symbolism in that area are taken into consideration. However, with but a few exceptions, we can only discuss possibilities.

Totemic symbols are of an order which one might expect to be more easily identified than others, and yet there is no certain proof that an animal picture has totemic significance.

Certain figures that might be totemic are more or less localized in their distribution. Thus nearly all of the "turkey track" figures are situated at Far View House. Pictures of turkey-like birds occur exclusively at Far View House and at Petroglyph House. Representations of mountain sheep have been found only at Petroglyph House. Other animal figures of smaller numerical representation are of similarly localized occurrence. This evidence, such as it is, supported by a comparative survey of totemic symbolism among near neighboring peoples, is at least suggestive of clan centers or stongholds, such as a turkey clan at Petroglyph House and at Far View House and a sheep clan at Petroglyph House.

A certain figure which in the above pages has been classified with "turkey tracks" because of its similarity thereto, is due for consideration. Like the "turkey tracks" this trident is the result of three converging straight lines but the posterior toe, adhering to a turkey track terminology, is radically prolonged and is sometimes extended to connect with like posteriorations of other tridents.

In two marked instances such figures are grouped with more or less regular arranged drilled dots. In figure 5b these dots, to the number of seven, are arranged to form a curved line extending through a series of three tridents. The broken nature of the stone base entirely cuts off the stems or posterior toes of two of the figures; the third has the prolonged toe. None of these figures have the balanced proportion of the more usual form of "turkey track." On another Far View stone a form is pictured which most certainly does not represent a bird track. The associated dots are present and from one of them shoots up a long projection. If the usual trident form resembles a bird track we may be excused in suggesting that this second type of trident suggests plant life, the prongs representing leaves or stems separating from the stock. One is tempted to go so far as to infer that the dots represent seeds. The apparent sprouting seed in the second case encourages this assumption.

On a wall stone at Far View House a fourth prong is added which definitely removes it from the bird track classification. Figure 5c certainly represents a botanical form much resembling grass, corn or pinon needles.

A staid uniformity of concept and execution, an abbreviated simplicity would seem to remove these plant-like figures from the illustrative or casual classes. They could hardly be classified as primarily decorative. They are therefore more probably to be relegated to the class of the symbolical. The importance of corn in Southwestern symbolism removes the improbability of botanical motifs being employed symbolically in any Southwestern pictographic art. In fact Mallery (1893:746 and 329) refers to vegetable motifs among so-called Moki petroglyphs, citing squash and mellow blossoms and other good vegetable pictures. In any case no greater stretch of imagination is required to recognize such figures as corn tassels than to assume that they represent turkey tracks.

One stone from Pipe Shrine House and discussed earlier is unique among Mesa Verde petroglyphs. Its simplicity is no indication of small

importance. On the other hand two elements of fact make it quite worthy of deliberate examination. In the first place it is most carefully executed. Few petroglyphs in the province have received the detailed attention of skilled handicraft and show the perfect finish that distinguish this figure. The care taken in its production argues for a considerable importance pertaining thereto. In the second place this identical motif is a very common character among the petroglyphs of the Shavano Valley near Montrose, Colorado. Variations of this form found in the latter province greatly resemble the tracks of indigenous ungulates. Such is the bit of evidence available bearing upon a possible interpretation of the Mesa Verde figure. If in either case a hoof print is represented, the question of a class or society figure again arises.

Representations of human feet or footprints are rare in the province. Out of a total of seven examples six are found grouped at Spring House (Fig. 35d). If this localized distribution is of any importance it would seem to place the human foot or footprint among social group symbols.

An apparent localized distribution of T-shaped doorway figures constitutes the basis for a similar argument regarding their use in social group symbolism.

In this connection it is an interesting fact that in all those ruins on the Mesa Verde which came under the writer's observations and which possessed T-shaped doorways, a very definite disposition of this type of doorway was noticeable. In every instance, and investigation was directed to be as inclusive as possible, T-shaped doorways were found to exclusively offer ingress and egress to and from rooms immediately adjoining kivas and towers, or situated in towers. Moreover these rooms are in all instances of a relatively large and well built type and are very often embellished with wall paintings of a recognized identified symbolical nature. To reverse the latter statement, I have no recollection of a room on the Mesa Verde, with walls

remaining complete or entirely restored, that possesses wall paintings and not at least one T-shaped doorway. In sum, there is some evidence to support an opinion that T-shaped doorways were present only in ceremonial chambers or rooms used by shamans, priests, or similar personages, and that a peculiar significance must therefore have attached itself to such passageways. Such a significance would give a corresponding symbolical meaning to a pictographic representation of the T-shaped doorway.

Certain petroglyphs from Balcony House and Pipe Shrine House are sufficiently definite and possessed or organized balance to suggest a purpose underlying their production but the absence of any apparent means toward determining such a purpose removes them from the field of further profitable discussion.

The prominent portrayal of sex in several human or anthropomorphic subjects may be of symbolical importance (Fig. 17b and c). Sex is not uncommonly a factor in the religious symbolism of cultures the world over. Such an assumption seems to be more in harmony with our knowledge of the artistic expression of primitive conceptions than the supposition that such drawings were prompted by either a sense of obscenity or a tendency toward carrying naturalism to such a detailed extreme.

No positive instances of masks or masked figures offer themselves for translation. The nearest apparent approach to such figures, common in other Southwest provinces, is to be seen in figure 19a. This portrays a seated human figure in profile with a large hump on his back and a long straight object held to project downward from the facial region of the head through the support of the two extended hands. It would be difficult to contemplate this figure and not connect it with the hump-backed flute player who holds the chief role in an important Hopi ceremony.

Idiograms

Some idiogrammatic characters are possibly present. The friendship sign of the Hopi might be construed as such. It frequently constitutes

an element of Mesa Verde pottery decoration design but becomes a petroglyph motif in but two positive instances. The Hopi symbol of virginity may be represented in two cases, one at Far View and one at Sun Temple, both of which are unfortunately mutilated by weathering. Other possible instances are of even more doubtful significance.

Of course it does not necessarily follow that the occurrence of these signs on the Mesa Verde and among historic Southwestern stocks insures a uniform interpretation in both places. Such a conclusion seems not improbable however in the light of the multitude of other cultural similarities which would seem to connect the primitive Mesa Verdans culturally with the Hopi.

Dr. J. Walter Fewkes is of the opinion that a series of concentric circles such as that represented on the rock bed at the head of Fewkes Canyon is a water sign. Current report has it that similar figures are to be found at water sources elsewhere in this province. The occurrence of concentric circle figures at sites other than water sources would seem to argue however that such an interpretation could not be universally applied.

Conclusions

The Problem of Unity of Cultural Authorship

Several figures appear to be foreign at least to the general petroglyph type of types of common occurrence in the province. These consist of the entire group or figures in Picture Cave. The crude workmanship, careless outline and exclusively animate subject matter, insofar as the subject matter may be identified, separate these figures from the remainder of Mesa Verde petroglyphs. A comparison of the human-like figures in Picture Cave (Fig. 18) with human or anthropomorphic figures at other Mesa Verde sites (Fig. 17d) will serve to illustrate the technical differences referred to. A lack of uniformity in type may be noticed in the last group cited above, but this may be

largely ascribed to differences in technical methods of production. Thus two figures are similar in style due to the grooved technique, and differ from figure 17d which is pecked, and from another figure which is scratched. All four figures resemble each other in adhering to a clean-cut preciseness of form far superior in point of workmanship to the Picture Cave figures.

In this connection it is noteworthy that there are no house ruins associated with the cave pictures, and excavation in a rather thick deposit of debris on the floor of the cave uncovered a considerable quantity of charcoal and ash but no pottery of any description.

It is therefore indicated by more than one point of evidence that the Picture Cave figures do not belong to the same or a kindred culture responsible for the remaining petroglyphs of the Mesa Verde.

There appears no adequate reason to doubt that the vast majority of the figures under consideration are to be ascribed to the workmanship of the stone house builders. At least thirteen motifs other than dots and straight parallel lines are common to both petroglyphs and decorative designs on pottery of the Mesa Verde. These are simply illustrated in the accompanying figure.

The lightning figure (Fig. 21, No. 9) occurs on the rock protrusions from the natural floor of Balcony House and in a more striking instance on the natural rock wall back of the north kiva at Square Tower House. Both instances covered too great a surface to allow tracing when the opportunity was afforded.

In general Mesa Verde petroglyphs broadly adhere to a type found associated with primitive stone houses and other pueblo ruins throughout the Southwest. Human figures done in a few straight angular lines similarly disposed to those forming Mesa Verde representations have been reported from Utah and Colorado (Mallery 1893:73 and 704).

Ceremonial figures like in technique and subject matter to the Petroglyph House flute player occur in the Canyon Segy district (Mallery 1893:511-512). The inverted T-shape of Petroglyph House is exactly

similar to a figure occurring at Oakley Springs, Colorado (Mallery 1893:721). Long handled tridents and polydents like those at Far View House, as well as the more common "turkey track" figures, have been reported from Oakley Springs and elsewhere. Representations of mountain sheep, lizards, snakes, turkey-like birds and human-like hand and foot forms are characteristic Hopi subjects and are reported as occurring at a great many Southwestern pictograph sites.

In addition to these Hopi subjects there is the Hopi friendship sign, the symbol of virginity and the hump-backed flute player at Petroglyph House.

These facts, few as they are in number, tend to support the already well bolstered theory that the primitive Mesa Verdans were closely related, culturally, to the progenitors of the Hopi.

A knowledge of Southwestern petroglyphs that would allow an adequately just comparison of Mesa Verde figures with those of other neighboring groups does not seem to be available. Any larger comparisons at this stage of accomplished research would hardly prove profitable.

The Use of Stone Etching in Decorating House Stones

The preceding conclusions are but poor contributions even to a field of knowledge so often neglected as that of pictograph archaeology. By far the most important conclusions that can be summed up here regard the decorative use of petroglyphs in Mesa Verde stone masonry.

The Maya cultures of Central America and those prehistoric cultures immediately adjoining them and influenced by them to north and south were productive of elaborately complicated designs cut into the building stones to produce schemes of wall decoration which often attained a worthy pinnacle of artistic standard. A considerable quantity of archaeological evidence is at hand to show the development of this art from a low artistic level to its highest culmination.

On the Mesa Verde one may see the crude beginning of what aspired to become a similar development of wall decoration. Not that I presume

to connect Central American and Mesa Verdian cultures at all. As a matter of fact there is some evidence to support the conclusion that the idea of wall decoration on the Mesa Verde is of quite local origin and development.

Out of ninety-eight figures found occurring on building stones, sixty-six were situated at Far View House, seventeen at Sun Temple, twelve at Pipe Shrine House, and one each at Cliff Palace, Balcony House and Little Long House. The point here is that ninety-four out of a total of ninety-seven figured building stones occur in Mesa houses rather than in cliff houses. Archaeologists who are acquainted with the province generally agree that the large mesa houses antedated the cliff houses. It therefore follows that the placing of petroglyphs on house walls was a late development.

Of the twenty-four ornamented figures treated as such in previous pages of this paper ten were found occurring at Sun Temple, ten at Far View House, two at Pipe Shrine House and one each at Balcony House and Cliff Palace. The Sun Temple and Far View House ornamental stones are equal in number and together constitute five-sixths of these figures, but the Sun Temple figures are far superior in artistic conception, execution and numerical variety to all other figures on the Mesa Verde. From this one would conclude that the Sun Temple figures represent the culminating pinnacle of the art of wall decoration by means of stone etching that was attained in this province. Archaeological evidence points out Sun Temple to be one of, if not the most recent building on the Mesa Verde. In fact, if Sun Temple was ever completed it was apparently little used before being affected by the gradual exodus that seems to have depopulated the Mesa Verde of its stone building inhabitants.

Therefore, if so little evidence is of any value whatsoever, it here supports three conclusions: that the placing of petroglyphs on house walls, though occurring in several instances on earlier houses, had a pronounced development in the later mesa structures; that from

this development there grew the artistic conception of wall decoration; that this decoration found its highest development at the very end of the last primitive cultural cycle on the Mesa Verde.

The highly decorated stone at Balcony House fits but poorly into such a chain of reasoning as that given above. It is hardly of sufficient importance, however, to counterbalance the trend of the remaining evidence. The uniqueness of this stone in Balcony House suggests that it might have been a late intrusive addition to the Place. Or its presence could be used if accompanied by sufficient corroborative evidence, to argue the comparatively late building or rebuilding of Balcony House.

If the Mesa Verdans, growing fearlessly independent as a result of increased numbers, forsook their mesa homes for more fertile and tillable plains and valleys, they left behind them the abundance of easily quarried and dressed stone which they had become accustomed to using as the chief material for house constructing and were compelled to conform their masonry skill to a softer, more perishable material which did not easily adapt itself to incised surface decoration. Such a trend of circumstances would account for the premature death of a rising culture of stone masonry and with it the end of an ambitious development of the art of incised wall decoration.

SHAVANO VALLEY PETROGLYPHS

Situation

The Shavano is a small V-shaped valley immediately west of Montrose, Colorado, and separated from the level site of the town by a narrow stretch of low plateau. This plateau extends south and then west to form the precipitous northern border of the valley. Low barren hills mark the southwestern valley wall. The Shavano Valley extends in a direction transverse to the compass with the apex of the valley to the

northwest where plateau and hills are only separated by a narrow pass. Not more than two miles southwest from this pass a short shallow ravine cuts due east from the county road into the plateau. Only a low rocky ridge separates this ravine from fields bordering the county road. At the mouth of the ravine, scattered over a long talus slope between the road and the perpendicular cliff face, are a number of sandstone boulders ranging in size from small to quite large. These have partly rolled down from the decaying edge of the plateau. The surfaces of many of these rocks and certain portions of the low cliff face topping the talus slope above are covered with a great many petroglyphs. This location will be termed herein the Eastern Petroglyph Site (Fig. 22 and 23). Just west of the northwest pass leading out of the valley, some large boulders clustered along the hillside constitute the Northwestern Petroglyph Site. The Eastern Site is mapped in the accompanying chart. Seven major groups of petroglyphs are indicated on the map by the Roman numerals I to VII inclusive and five smaller less important picture rocks are indicated by the Arabian numerals 1 to 5 inclusive.

Group I consists of a single large rock somewhat monumental in aspect due to its perpendicularly erect position. The east face of this rock is entirely covered with petroglyphs. A few modern initials and a few bullet marks probably of quite recent origin tend to mar the primitive tracings, but only to a slight extent.

Group II consists of a natural trilython composed of three very large smooth slabs of sandstone. Two of these assume erect positions with an interval prevailing between smooth, perpendicular, parallel faces. The third slab lies horizontally upon the others to tightly close in tunnel-like passageway which is as straightly and squarely hewn as though of purposeful artificial origin. It is twenty-five feet in length, from three to five feet in breadth and from ten to twelve feet in height. The walls of this tunnel are largely covered with primitive petroglyphs practically untouched by European contributions.

Group III consists of several more or less perpendicular surfaces on the cliff face. These are closely associated with each other and

Eastern Petroglyph Site
Shavano Valley

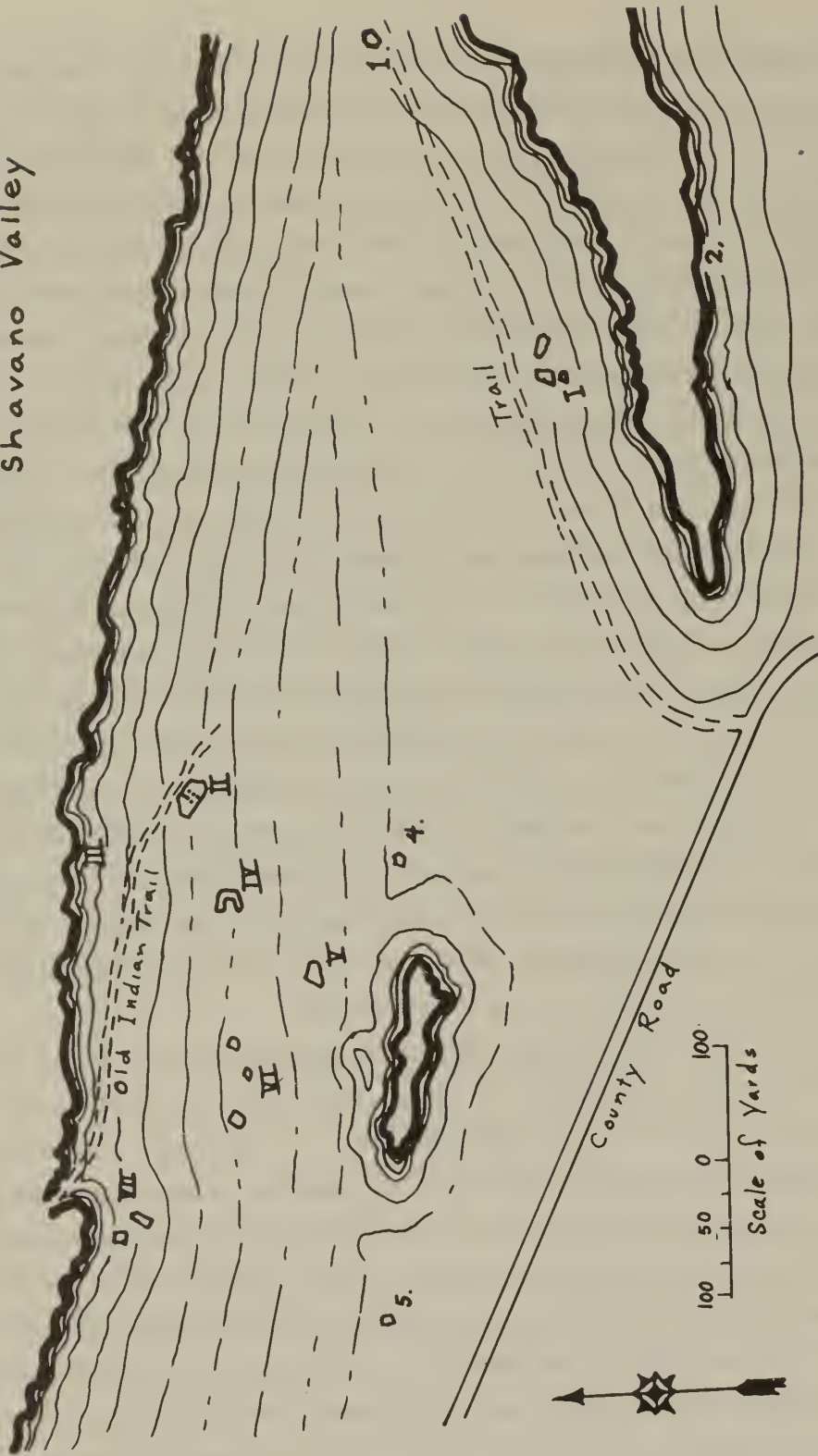


Fig. 22. Plan of Shavano Valley Eastern Petroglyph Site



Fig. 23. Shavano Valley Looking Southeast from 5MN5.



Fig. 24. Old Type Petroglyphs From East Group Site III.

largely covered with petroglyphs placed near the cliff base. European tracings are few here and practically harmless.

Group IV includes three rocks separated by non-substantial intervals, all having one or more surfaces largely dominated by petroglyphs. There are no European markings here.

Group V includes several boulders, one very large. There are few petroglyphs on all these rocks but the south side of the largest is entirely covered with incised figures.

Group VI includes three separate rocks situated not far apart. Two of these have each a few tracings on favorable surfaces. The third, by far the smallest of the three, offers one side completely covered with figures.

Group VII is made up of several neighboring surfaces on the cliff face, each the site for a few figures, and a large boulder resting on the talus slope just below the cliff sites. This boulder bears one or two petroglyphs.

Sites 1 to 5 are rocks and cliff surfaces each bearing from one to several figures.

The Northwestern Site consists of several large closely associated rocks each bearing several figures.

In endeavoring to obtain as complete a record as possible of these most interesting products of primitive culture, careful tracings were made of three hundred and eight figures. Drawings were made of eight large, inaccessible subjects. Photographs were taken at all important sites. Photographed subjects were chalked only when their natural coloring was judged to be too dark to record well otherwise.

Of the petroglyph sites studied, groups I, III and figures on one rock at the northwest site were known and cited by local and other reports previous to the obtaining of submitted data. The remainder of the petroglyphs, insofar as I know, were discovered during recording operations.

Technique of Workmanship

The technique of workmanship employed was in every case that of pecking. There are, however, two distinct types of pecking. One results in deep solid figures rather carefully outlined and uniformly done throughout. This type will be designed herein as deep pecking. The other type results in shallow spotted figures with outlines and surfaces considerably broken due to the failure on the part of the artists to take proper pains or devote sufficient time to the work's execution. Such a result would accrue if one hastily pounded a figure onto the rock surface without giving attention to the ultimate permanency of his work. The immediate result would be a very light colored chalky design, fairly solid and evenly outlined; but wind and rain would in a short time remove the chalk-like dust and leave intermittent scars that would but imperfectly suggest the producer's original conception. This second kind of workmanship will be referred to herein as shallow pecking.

No special pecking tools were found, but not a few good sized fragments of hard stone resembling flint and to all appearances naturally pointed in Eolithic fashion were seen in the immediate vicinity of the picture rocks. Inasmuch as the material from which these flints are fashioned is not a natural product of the field of investigation, the presence of such potential implements in close association with the petroglyphs is at least suggestive. I found no difficulty in using such stones to produce comparatively good figures on sandstone surfaces exactly like those used by primitive artists.

Classification

A careful consideration of workmanship, style, motif, detail and age warrants the division of Shavano petroglyphs into at least two classificatory groups, old type and new type.

Old type. The evidence of age alone would serve to identify the old type petroglyphs. The sandstone of the Shavano Valley has a dark russet

surface coloring due largely to iron oxidation. A new break or cut shows as a yellowish white tint in radical contrast to the long exposed surfaces. Some observed incised initials associated with dates which indicate that they are about fifteen years old are a somewhat doubtful degree darker in color than is a fresh break in the stone. The old type petroglyphs are identical in coloring with the old unbroken surface save where they have been recently scratched or chalked for photographic purposes. So true is this that many of these figures are noticeable only after close examination of the rock surfaces.

The workmanship of the old type petroglyphs is uniformly that of deep pecking. The style is rather heavy, crude but clean lined and comparatively simple.

The motif detail is uniformly representative, almost dogmatic. Motifs treat of such subjects as simple straight lined figure, deerlike and sheep-like animals, anthropomorphic figures, hand and foot forms, animal tracks and long lines connecting various figures. The old type motifs are true to type as such and are not to be confused with the other petroglyphs occurring at the same stations. Two hundred and twelve old type figures were examined.

New type. The remainder of the petroglyphs under consideration are here treated jointly as a group due to their lack of conformity with the old type figures and to the difficulty involved in subdividing them into any sort of homogenous groups of logical classification. In one respect they are alike; their lighter coloring shows them to be of later origin than the old type pictures, but a diversity in coloring bears evidence of radical differences in age. All are more recent than old type figures but some are much more so than others. In a few instances only a shade of difference in coloring was apparent, but other traits determined the classification satisfactorily at least in the mind of the writer. Such instances are too few to have much weight one way or the other in any of the following discussions. New type petroglyphs is a reasonably true classificatory term to apply to this group as a whole.

However, differences in style, workmanship and motif detail suggest subdivisions within the new type group which are insufficiently differentiated in the observer's mind to warrant recording. Whether the product of a single or several cultures, a dogmatic uniformity in technique certainly did not motivate the producers as was apparently true of the old type group. Any recurring tendencies suggestive of further classification can be better considered after a more detailed exposition of traits.

The more numerous repeated new type motifs include simple curvilinear figures, complex curvilinear figures, characters, and portrayals of deer, bear, mounted horses and a few unidentified animals. One hundred and four new type of figures were examined.

An examination of the distribution of old and new type petroglyphs is not productive of any very enlightening evidence. Eastern sites I and II and the Northwest group are noteworthy in that only old type figures occur there. Forty-eight figures are found at I, thirty-two at II and twenty at the Northwest group. Only new type figures, numbering fifty-three, occur at VI. The same is true of rocks 1, 2, 3 and 4 with one figure each. Site III offers seventy-seven old type and twenty-five new type figures, well intermixed. At site IV there are two old type and seven new type figures. Site V shows old and new type figures more or less separately grouped but with groups overlapping. The old figures number sixteen and the new, eleven. At site VII are seven old type and seven new type figures well intermixed with each other. Rock 5 offers three old and one new figure. Thus in most cases the same rocks bear both old and new type figures. In a few instances the new are superimposed upon the old.

TABLE 3
Shavano Petroglyph Motifs

	<u>Old Type</u>	<u>New Type</u>
I. Conventional designs		
1. Straight-lined figures		
a. Parallel lines	1	
b. Simple crosses	1	2
c. Complex crosses	3	
d. Tridents	9	1
e. Bracketed lines	12	2
f. Stars	5	2
g. Large complex figures		1
2. Curvilinear figures		
a. Waving lines	1	
b. Circles	2	2
c. Spirals	1	
d. Large complex figures		4
3. Straight line-curvilinear complexes	1	3
II. Characters	14	63
III. Unclassified figures	19	8
IV. Hand forms, foot forms and tracks		
1. Hands	13	
2. Anthropomorphic feet	7	
3. Apparent animal feet	20	1
4. Doubtful foot forms	10	
5. Stemmed hand-like forms	4	
6. "Hoof tracks"	50	
V. Animate figures		
1. Animals		
a. unclassified	11	2
b. Headless	2	4

TABLE 3

Shavano Petroglyph Motifs
(continued)

	<u>Old Type</u>	<u>New Type</u>
V. 1. (continued)		
c. deer	1	1
d. mountain sheep	7	
e. Deerlike and sheeplike animals	7	2
f. Dog-like animals	2	
g. Bear		3
h. Rabbit-like animals	1	
i. Horses		2
2. Anthropomorphic figures	6	1
3. Man and animal groups		
a. Primitive	2	
b. Man and horse		4

TABLE 4

Group Differences in Motif

Table 3 supplies data which may be arranged as follows to show motif differences between the old and new type petroglyphs.

Old type motifs:

Hand and foot forms and "hoof tracks"	104
Animals	31
Conventional straight-lined figures	31
Character-like figures	14
Anthropomorphic figures	6
Conventional curvilinear figures	4
Primitive groupings of man and animals	2
Conventional straight-lined and curvilinear complexes	1

New type motifs:

Character-like figures	63
Animals	14
Conventional straight-lined figures	6
Conventional curvilinear figures	6
Grouping of man and horse	4
Conventional straight-lined and curvilinear complexes	2
Foot forms	1
Anthropomorphic figures	1

The only important numerical similarities in motif representation between the two age types are the comparatively equal importance of animal and conventional straight-lined figures. It will be shown elsewhere in this paper that these apparent similarities are purely numerical since the motif detail involved differs radically between new and old types. Animal and straight-lined figures are not uncommonly of large representation at pictograph sites the world over.

In presenting the motifs in detail it seems advisable to adhere to the classificatory grouping of old and new types defined above.

Old Type Designs

Forms which have outline of a regular form and conventional appearance are described herein as conventional designs regardless of any new indeterminate meaning or importance which may have been originally intended. They are of frequent occurrence among the old type figures.

Straight-lined figures. Only one example of a series of parallel lines was found. It consists of eleven short parallel perpendiculars spaced at short, rather equal intervals.

The simple cross is also represented by a single figure of rather rough execution. Three more complex cross-lined figures were found and one is shown in Figure 24a. The stem of one not illustrated is continued by dotted lines, to a total length of two feet. The cross elements of this figure show touches of a more recent rejuvenation.

There are nine instances of tridents. Three of these have no marked posterior toe or stem (Fig. 24b). Figure 24c and one other are so appendaged. Another shows a very long serpent-like stem attached to the base of the main figure.

Single straight lines, generally long, enclosed in a sort of bracket in the more simple instances and always associated with bracket-like cross pieces, are termed herein bracketed lines. Twelve of these figures occur situated at various sites (Fig. 24d).

Figures consisting of five or more points radiating from a center are here arbitrarily termed stars. Five stars representing two closely associated sites were found. The number of points varies from five to nine (Fig. 24d).

Curvilinear figures. Few curvilinear figures occur among old type petroglyphs. One is a waving snake-like line, while two are partially complete circle figures and one of them is dually concentric. One spiral associated with another figure and a small circle enclosing several oppositely directed straight lines (Fig. 25a) complete the list.

One large complex of straight and curved lines was also noted.

Characters. Small detached figures of a marked independence and compactness and not conformable to other classification have been termed characters in this paper. Some such term was necessary to cope with the very large number of such figures under examination, especially among the new type petroglyphs. As many figures as possible which might otherwise be classified as characters have been accounted for under other classificatory heads.

Fourteen old type figures are here grouped as characters. They might be more fully described as indeterminate character-like figures. Their general resemblance to a large and very definite group of new type characters excuses their presumption to demand attention as a group (Figs. 25b and c).

Seven other figures (Fig. 25d) might be included in the old type character group. Otherwise they remain without specific classification.

Unclassified figures. Eleven tracings, apparently inanimate in subject matter, remain unclassified (Figs. 26 and 27). One could be interpreted possibly as anthropomorphic while another also occurs on the Mesa Verde, but the simplicity and local uniqueness of the motif deprives this coincidence of any great importance. Two others from the Northwest group are interesting in that they probably portray the same motif.

Animate portrayals. The large group of old type animates are of special interest due to their numerical importance.

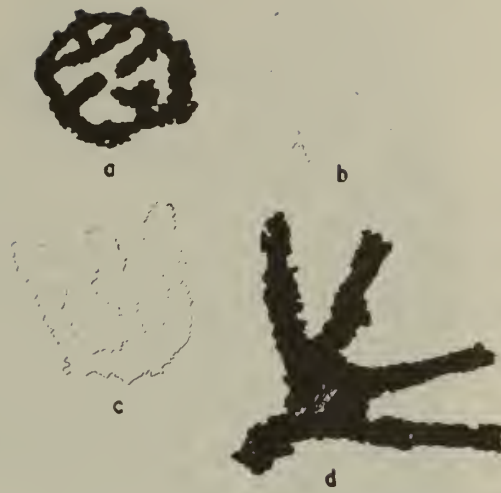


Fig. 25. a., b. & d. Old Type Petroglyphs From East Group Site III,
c. Old Type Petroglyphs From East Group Site II.

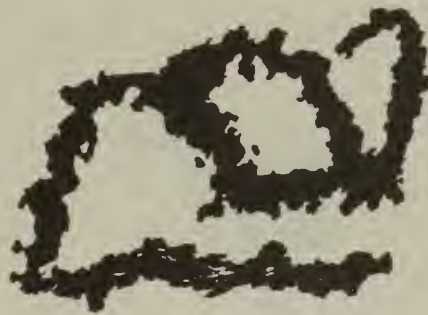


Fig. 26. Old Type Petroglyph From East Group Site I.

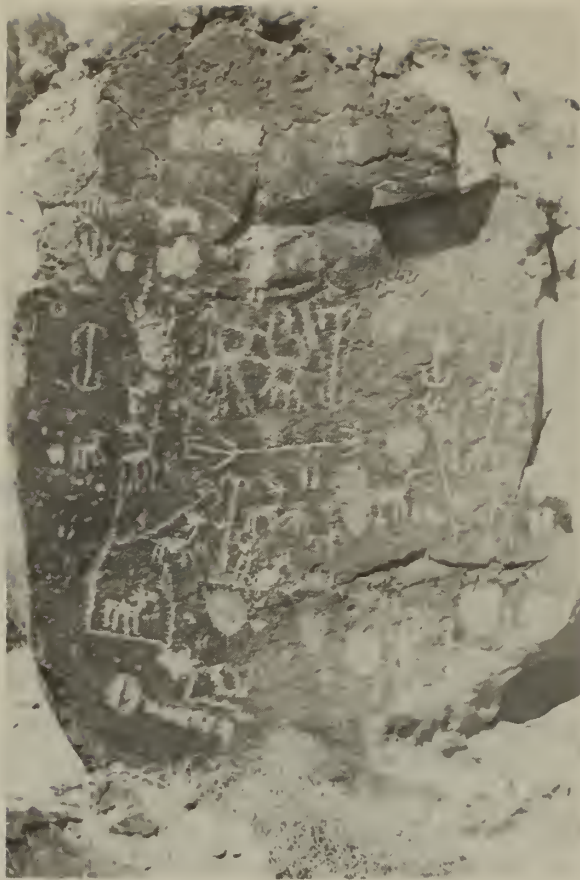


Fig. 27. Picture Rock in Shavano Valley, 5MN27.



Fig. 28. a. & e. Old Type Petroglyphs From East Group Site I, b. Same From Site V, c. & d. Same from Site II.

Certain poorly executed or partly defaced animal representations defy even a reasonable guess as to their more specific identity (Fig. 28a). One shows markings under the legs which may denote tracks (see page). Some figures seem to be headless.

Ten animal pictures share the common attributes of large ear-like appendages and short more or less upturned tails (Fig. 28b). They might well represent doe deer or fawns. Fig. 28c would seem to picture an animal pierced by a javalin or arrow. One has an exceptionally long tail which may or may not serve as a marker removing it from the deer group.

Ten other figures have pointed appendages protruding from the head in such a manner as to resemble horns more than ears and sheep or goat horns more than deer antlers (Fig. 28d). On three of these forms the horns are abruptly turned backwards in a manner characteristic of a certain style of picturing the long horned mountain sheep observed at various pictograph-sites in the states of Utah, Colorado, Arizona and New Mexico and generally attributed to Shoshonean endeavor. The more gently curved horns represented in figure 29d are sufficiently true to natural type to most probably identify the animals as mountain sheep. The shorter and less characteristic horns depicted in figure 28d do not conform so readily to sheep types but rather favor antelope types.

Five animals are pictured as possessing both ears and horns or antlers (Fig. 29b). These may reasonably be ascribed to the deer family. Figure 29b has an addition to one foot which may be either the product of superior position or a representation of the track of the associated animal.

Figure 28e shows traits resembling those of a dog or coyote and one from the Eastern group of some long-tailed animal such as a rat or weasel.

Six anthropomorphic figures appear outside of mixed animate groups. Two are very crude and hardly recognizable. The type of workmanship also shows a decided departure from the deep pecked technique common to other old-type figures. Figure 30 is also roughly done but has the interesting



Fig. 29. a. Old Type Petroglyphs From Northwest Group, b. Same From East Group Site I.

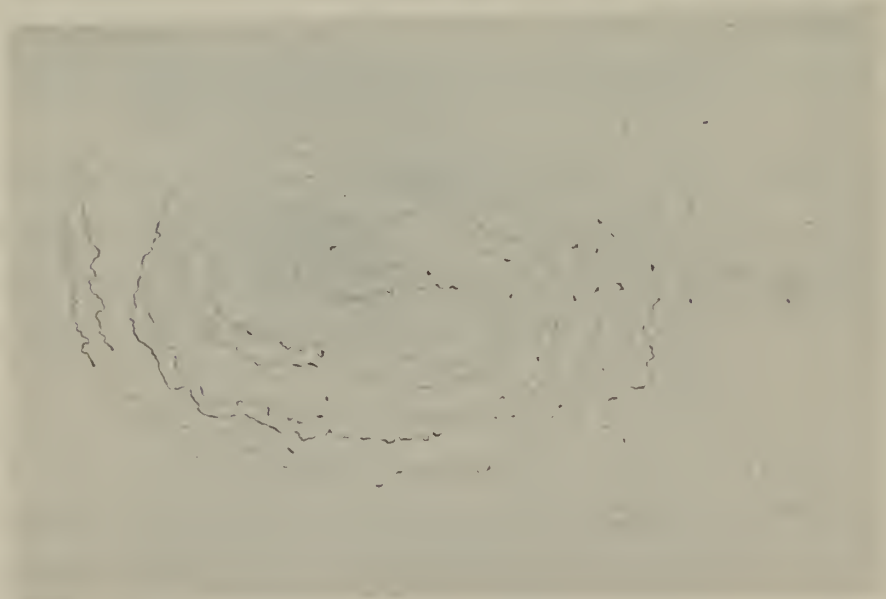


Fig. 30. Old Type Petroglyph From Northwest Group.

feature of a spiral originating in or from a source passing through the figures' middle. A similar use of spiral-like characters in the picture writing of some of the plains Indians to depict pain and its source is of comparative interest. Two figures from Sites III and VII show greatly simplified cross-like forms with the arms terminating in large widespread hands. This type of anthropomorphic representation has been classified elsewhere in the Southwest as Shoshonean and occurs at sites throughout the Southwest penetrating as far west as Owens Valley and Najowe Valley (Mallery 1893:58-59 and 65-66) in California.

A figure from Site V is by far the most interesting of the anthropomorphic group. The body is represented fully rather than by a single straight line. The lower limbs are given as much attention as are the upper limbs. One leg terminates in five toes; the other in three, two long and one comparatively short. The latter resembles a cloven hoof more than a human foot. The straight arms extend laterally to culminate in large widespread hands as in the figures from Sites III and VII. The head possesses lateral ring-like projections. These might represent ears, forms of hair-dress or curved horns such as possessed by the rams of curly horned mountain sheep. The figure has a posterior protrusion which may represent either a short tail or a penis. Altogether this figure suggests an anthropomorphic treatment of the mountain sheep more than it does a human form. The human traits consist of hands and toes on one foot. The position of the body is not necessarily erect but rather spread out. The sheep characteristics include the short tail, the hoof on one foot and the curled horns, if these interpretations will stand.

Two interesting man-animal groups are shown in figures from Site III and the Northwestern group. In figures 31, 32 and 33 a long line originating in the hand of a human figure proceeds downwards to pass through the body of a mountain sheep and culminates in a large javelin point. The long line may represent the handle of a javelin or the direction taken by the javelin in its course to transfix the animal. Both the figure of



Fig. 31. Old Type Petroglyph From East Group Site III.



Fig. 32. T. C. McKee Photograph of Fig. 31 ca. 1922. Courtesy Smithsonian Institution National Anthropological Archives.



Fig. 33. T. C. McKee Photograph of Shavano Valley Petroglyphs ca. 1922. Courtesy Smithsonian Institution National Anthropological Archives.

the man and that of the sheep are naturalistic and exceptionally good. The figure from the Northwestern group has four animals as a group on the run. Three of these are probably mountain sheep. The last resembles more a doe deer. Two human-like figures appear with the animals, both with outstretched arms. One of these stands to one side and near the rear of the animal group; the other stands in front blocking their passage. The presumption that we have here the pictured chronical of a sheep or deer drive seems logical. The relatively deep indenture at the base of the body in the larger human form may denote the female sex. Two figures of the type referred to elsewhere in this paper as hoof prints are present at the left of the group.

Hand, foot and track forms. A comparatively large number of hand impressions and tracks are represented in the old type petroglyphs.

Hand representations are not especially good and seem to blend in type into the foot impression forms so that there are many figures which cannot certainly be classified either as one or the other (Fig. 34a). All but three of twelve figures portray a normal number of fingers. Two petroglyphs picture hands with six digits.

Three petroglyphs from Sites III and V show forms possessing both hand and foot characteristics. The long digits and thumb-like position of an outside digit suggests hands but the long bodies of the figures suggest feet. Six others (Fig. 34b) probably represent human footprints although there may be reasonable doubt about one. Of the nine figures, seven represent normal feet in regard to the number of toes. The careless workmanship in two cases leaves some doubt as to the number of toes with the exception of one four-toed form. The waving line attached to the heel of a glyph from Site III may represent a trail or course of direction. A somewhat fanciful suggestion is that the waving disposition of this line may imply that the individual represented by the foot impression was in some way, as ceremonially or socially, associated with the snake.

A glyph from Site V would seem to represent some animal foot since the spread of the abnormally long digits is not suggestive of the human hand or foot.



Fig. 34. a., c. & d. Old Type Petroglyphs From East Group Site III,
 b. Same From Site II.



Fig. 35. a., b., c. Old Type Petroglyphs From East Group Site III,
 d. Natural Surface In Spring House, Mesa Verde, for Comparison.

Three foot-like representations are alike in that they display four long radiating digits associated with a somewhat narrowly elongated heel. Whether or not they represent foot impressions they are to be more readily classified here than elsewhere (Fig. 34c).

The majority of foot-like forms are supplied with certain peculiar features which group them as follows.

Three figures are marked by unpecked openings which nearly cut transversely across the foot at a point immediately posterior to the toes. These forms possess five, six and seven toes respectively (Fig. 34d). In three other instances similar bars cut entirely across the foot. One of these figures has eight toes. A fourth figure has a relatively deeper trench forming a band across the foot in a position similar to the unpecked bars of the three forms just described (Fig. 35a).

A group of nine foot-like forms are marked with unpecked spaces constituting transverse bars in the usual position, with one exception, but broken at either end by heavy lines completing the outline of the foot. The exception referred to has the bar placed across the heel rather than across the ball of the foot. These forms possess from four to seven toes. One has a hoof track figure superimposed upon it as indicated by the dotted lines. Two square short-toed figures are each marked by two transverse ridges rather than by one. Both of these forms show claw-like indicators respectively anterior to the toes (Fig. 35b).

Figure 35c has a single transverse ridge but is in general type quite unlike the preceding foot forms. However, it resembles figure 35b more than it does the others.

Two figures from Site III very probably represent the impressions of cat feet. This interpretation is supported by the characteristic foot pads and distribution of round toe marks.

The characteristics of glyphs represented in figures 34c and d and 35a, b and c, inclusive, would seem to be more symptomatic of animal feet than of human feet and the impression prevails that the

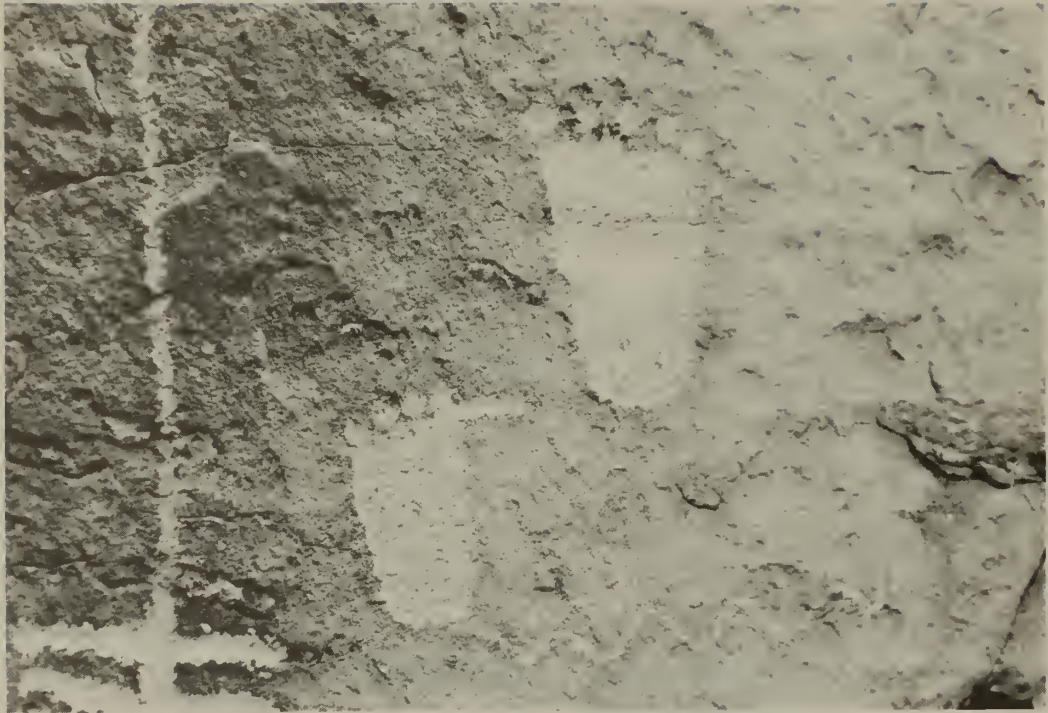


Fig. 36. Footprint Petroglyphs, 5MN5, Shavano Valley.

various arrangement of transverse bars and other peculiarities noted above are markers for different kinds of animals. A new type drawing of a bear from Craig is supplied with feet showing transverse bars and unattached toes similar to some of the old-type foot forms.

There remain for consideration four figures which may be termed stemmed hand or foot forms. These consist of vegetable like stems or stalks culminating in, or connecting, several hand-like or foot-like forms (Fig. 37). Three figures (Fig. 37) might well be vegetable conceptions, but one certainly pictures a barred foot form like those discussed previously. These figures resemble designs reported from the Bald Frier Rock, Maryland, and from the Independence Stone, Ohio (Mallery 1893:84 and 102). The comparison may seem rather far-fetched but other undisputable parallels between peculiar motifs from Eastern provinces, some from these same stones, and from the Shavano Valley seem to justify the comparison.

One of the most numerically important motifs in the Shavano Valley consists normally of two short parallel lines or oblong spots associated with a pair of dots or round spots, the latter respectively situated near complementary ends of the former. Such is a description of the general type form. Variations are not very common but since they are each repeated in several instances they deserve brief consideration.

There occur several instances in which the two parallel oblongs are fused into one with usually a medial notch apparent at the dotted end of the figure (Fig. 38a). Several other figures show complementary ends of the parallel oblongs joined to constitute a sort of oval. In some instances the lines are joined at one end only, in every case those ends away from the dots, to constitute a horse shoe shape (Fig. 38b). The usual parallel oblong form may be divided into two types: one consists of a rough oval form divided lengthwise into equal halves by a comparatively narrow medial line (Fig. 38c); in the other type the parallel lines are narrow and straight (Fig. 38d). A few figures are not associated with dots or spots (Fig. 38e).



Fig. 37. Old Type Petroglyphs From East Group Site V.

These figures are placed in almost every instance with the largest dimensions up and down. A few instances show a diagonal direction, and in a single instance the figure observes a transverse direction. The dots are about as frequently placed above as below the parallel lines. Grouping is of little apparent importance. The figures usually occur singly or in pairs, never in logically arranged groups suggestive of tracks in sequence.

Fifty such figures occur in the province. Their possible significance is therefore of special interest and importance. A survey of petroglyph motifs elsewhere in America is productive of several instances of parallel shapes. A Southwest figure found associated with pueblo culture consists of two parallel oblongs respectively blunt and pointed at corresponding ends. This figure has been described as representing a deer track (Mallery 1893:748). A motif exactly parallel to one of the Shavano type occurs on the Mesa Verde. But the most interesting parallelism is to be found in Ohio and Pennsylvania. The figures on Independence Stone, Ohio (Mallery 1893:102), are identical to those of one Shavano Valley type. Forms on the Barnesville Track Rock, Ohio (Mallery 1893:103) are like the few instances in the Shavano Valley in which dots are omitted. Bisected ovals with the dots omitted occur on Little Indian Rock, Pennsylvania (Mallery 1893:107). At Millsboro, Pennsylvania, there are some forms again identical to one Shavano type (Mallery 1893:110-111). The figures from Ohio and Pennsylvania have been interpreted to represent pairs of moccasin tracks, the associated dots remaining unexplained. Such an interpretation is not at all satisfactory.

In Colorado bits of evidence tend toward assisting in the forming of an interpretive theory. An earlier mention of a glyph shows a deer-like animal with a typical double-barred and dotted character associated with one of its feet. In almost every instance the shapes in question occur closely associated with representations of deer-like animals. At the Craig petroglyph site there is an old type animal figure with four double-barred and dotted characters each immediately below one of the creature's legs. These certainly suggest either foot or track representations.

These scraps of information tend to support the admittedly first-sight conception of the writer that the characters in question literally represent either the tracks or the hoofs of one or more kinds of wild indigenous ungulates. Symbolically they may possess a quite different significance and importance involving such matters as social or religious organization among the producers. The variance in type could imply a differentiation between the tracks of various kinds of ungulates or could be accounted for by arbitrary conventionalization serving to designate differences in symbolical import.

Connecting lines. There remains for consideration an appreciable number of angular and variously curved lines extending apparently at random over many of the larger rock surfaces devoted to petroglyphs, and usually connecting all manner of figures in a most confusing manner. Their importance or import, if any, is not readily apparent. Their occurrence, however, is of Shoshonean frequency.

New Type Designs

As has been suggested elsewhere, the new type petroglyphs in the Shavano Valley do not harmonize in a way to suggest that they are the independent product of a single or of closely allied cultures. From the standpoint of apparent age, some are quite fresh while others are comparatively old although pronouncedly more recent than any of the old-type figures. The figures of horses and horsemen were sufficiently new in appearance to permit photographing without the use of chalk. This was also true to a lesser degree of the character figures of Site VI. On the other hand the bear representations and large line complexes of Site III were of a necessity lightly chalked in order to show clearly in photograph.

The three groups of figures indicated above differ in other respects than in apparent age. The horse figures are closely grouped about Site VII, the characters about Site VI, and the large cliff figures confined within a small compact area of the cliff face. The horse figures show a rather careless technique of workmanship but are rather

realistic in detail. The characters stand out as such in sharp contrast to the other petroglyphs. The cliff figures, though having less in common from the point of motif, are similar in regard to technique of workmanship and general style. The remaining petroglyphs classed as new type do not readily fall into one of these three groups or sympathize with each other sufficiently to constitute a definite fourth or other groups. On the whole it seems best to treat the New Type figures as a single group, bearing in mind the while that this is but an arbitrary classification serving to convenience presentation.

Straight-lined figures. Straight-lined motifs of a strictly conventional appearance are rare among the new type figures. They include two crosses, one trident, two star-like shapes and one large complex figure. The last named design is interesting due to its close resemblance to the blocked terminals at Craig, Colorado.

Curvilinear figures. Conventional curvilinear motifs fare even more poorly. They are represented by a circle and a pair of concentric circles (Fig. 39a).

Straight line-curvilinear complexes. There are three instances of straight line-curvilinear complexes, conventional in type. They are a cross enclosed in a circle (Fig. 39b) and two more complicated figures involving the circle or segments thereof and straight lines.

Characters. Sixty-four figures are classified as characters. This has seemed a desirable grouping and naming for several reasons. They seem in all respects to constitute an independent group. The technique of workmanship involved is in every case the same. From all appearances they are of a same age. They are geographically grouped, dominating Site VI to the exclusion of almost all other motifs and occurring only at points near Site VI. Their individual placing is that of separate units closely grouped to give a superficial impression of writing. They are invariably simple forms often suggestive of European letters. Two characters are from Site V, eleven from the cliff face above Site VI,



Fig. 38. a. & d. Old Type Petroglyphs From East Group Site I,
 b. Same Site II, c. Same Site IV, e. Same Site III.

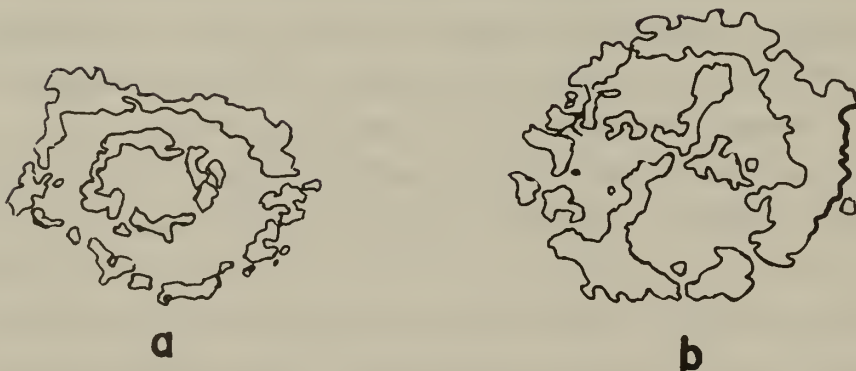


Fig. 39. New Type Petroglyphs From East Group Site V.

and the remainder occur on rocks at Site VI.

It would prove most interesting to be able to determine the purposes intentionally served by these characters. They do not strike one as being purely ornamental. That they are not used as phonetic symbols is practically proven by the lack of repetition of given shapes. Out of sixty-four figures only eleven appear more than once to the uninitiated eye, and some of these repetitions are doubtfully allowed as such. (See Fig. 40)

Thus, excepting simple diagonally disposed crosses, no character is repeated more than three times and thirty-five characters occur once each.

The startling number of characters (Fig. 40) which are shaped identically like European letters, including A, H, I, R, T and V, especially the A shapes, offers a most intriguing enigma. It would be extraordinary if so many English letters were accidentally duplicated in a set of sixty-four primitive characters. A theory which has no substantial foundation of fact to rest upon but which could explain this phenomena interprets the characters to be, in part at least, copied from horse and cattle brands. The Ute Indians, who roamed through the Shavano Valley in historic times and are reported by old settlers near Montrose to have camped at times among the petroglyph rocks, followed the traditions of the plains in regard to horse and cattle thieving. It is possible that the characters under discussion constitute records of possession or meritorious acquisition of branded stock, the brands offering a ready means whereby the property could be individually recorded for checking purposes or emblazoned upon a monument to successful exploitation. It was determined at any rate through consultation with Colorado cattle men that all of these characters might be branding motifs and that a good many of them are frequently used as such today.

A search for similar motifs of aboriginal origin has not been very profitable. Crosses constitute a type unit of design common to human artistic effort rather than to any single culture group. Other

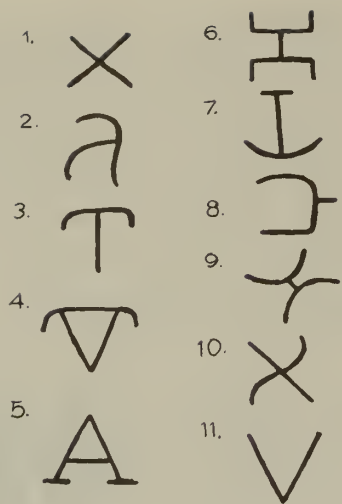


Fig. 40. Motifs of Apparent Historic Rock Carvings.



Fig. 41. a. New Type Petroglyphs From East Group Site VI, b. & c. Same Site IV.

similarly simple figures could not be expected to occur uniquely in the Shavano Valley.

Character-like figures very similar to some of the Shavano Valley examples are to be found elsewhere among the so-called Shoshonean petroglyphs of the Southwest (Mallery 1893:52, 77 and 96), but a group exclusively limited to unit characters of this type has not to my knowledge been reported.

The A shapes might be construed to represent the travois as sometimes represented in Dakota graphic art, but the Shavano A has embellishments which insistently suggest the English letter.

Figure 41a is like the Dakota sign for the buffalo head as depicted in Batiste Good's winter count (Mallery, 1893:293-299).

Unclassified. A few unclassified figures include a tree-like form and two five-pointed polydents facing outwards from opposite ends of a short straight connecting stem. The latter figure is somewhat suggestive of the joined hand forms pictured by the Hopi (Mallery 1893:712). The same motif has been reported as occurring near the San Marcos Pass, California, among pictographs of Shoshonean type (Mallery 1893:62).

Footforms. A single foot impression form is representative of the track of some animal such as the cat, judging from the disposition of separated foot pads.

Animate Portrayals. Of the animal forms five are quite free from any markers whereby they might be identified. One is so crudely executed as to be hardly recognizable as an animal subject. Its one point of interest is its outlined form. Several (Fig. 41b) seem to represent headless animals with deer-like attributes. One of these mutilated figures (Fig. 41c) has three projections extending upward from the animal's rump, not unlike lances with attached pennants. The headless forms occur grouped at Site IV. An obvious large antlered deer is located at Site VII.

Three animal figures occurring at Site III are probably bear. A single figure from Site III has rear legs that are very different in

type from those of a bear but the other traits represented are more symptomatic of the bear than of any other known animal indigenous to the near vicinity. The general roughness of execution will in any case hardly warrant a too critical scrutiny of these pictures. Two glyphs from Site III picture large animals climbing trees, a situation which tends to identify them as bear. The last of these figures (Fig. 42) is associated with a trail of spots, probably representing the animal's tracks. The tree climbing bear constitutes a figure of important symbolical significance in the Ute Bear Dance ceremony. This fact, coupled with the historic camping of Ute parties in the Shavano Valley, would argue to identify the climbing bear figures as Ute products.

Two riderless horses are pictured. They are crudely done but show the unproportionately long bodies and necks characteristic of equine representations among pictographs of the plains Indians in general and certainly of the late Utes.

A single anthropomorphic figure consists of a cross, forming arms and trunk, surmounted by a large oval head. The arms terminate in hand-like splotches. No legs are represented. The figure is typical of the Shoshonean type.

There are four figures picturing mounted horses. The mounted forms are in three instances cross-shaped. In figures 44, 45 and 46 the cross is supplied with legs dangling below the horse's belly. In a glyph from Site VII a straight line extending horizontally below the animal's feet suggests a path or course of travel. These figures are quite similar to those at Craig, Colorado. One horse and rider from Rock 3 is more complex. It pictures a horse-like animal with ten legs mounted by a figure which is dominated by a cross within a circle. Possibly the many legs indicate a troop of horses rather than a single one. All these mounted figures are certainly of late Ute type.



Fig. 42. New Type Petroglyph from East Group Site III.



Fig. 43. Photograph of Figure 42, 5MN5, Shavano Valley.



Fig. 44. New Type Petroglyph From East Group Site V.



Fig. 45. T. C. McKee Photograph of Figure 44, ca. 1922. Courtesy Smithsonian Institution National Anthropological Archives.

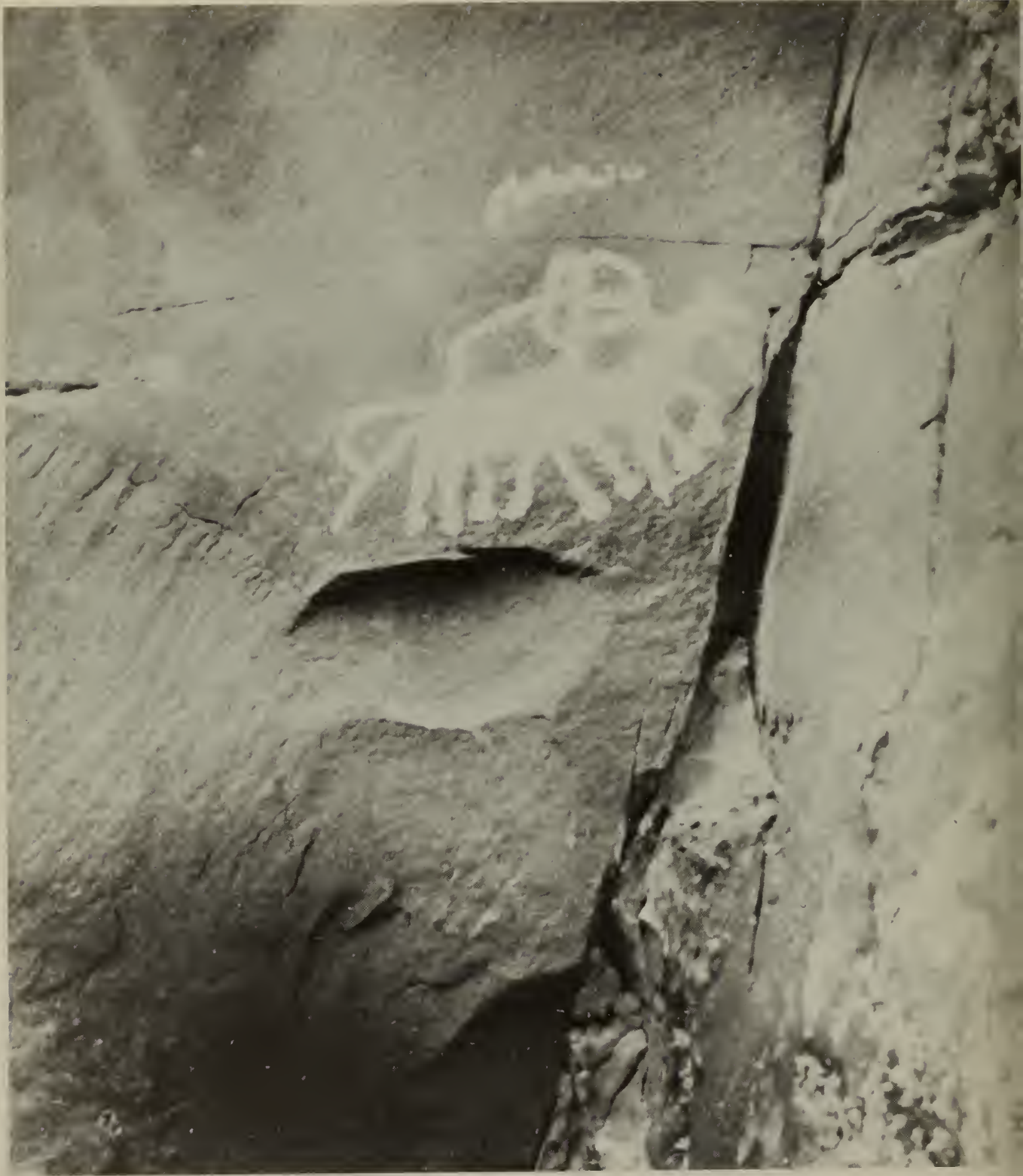


Fig. 46. T. C. McKee Photograph of Historic Ute Petroglyph in Shavano Valley. Courtesy Smithsonian Institution National Anthropological Archives.

Conclusions

The question aroused by the examination of a group of pictographs as to sources of and motives inspiring their production is primarily insistent with casual observer and student alike. The available evidence does not warrant the definite answering of either question when applied to the Shavano petroglyphs, but a few data may at least be marshalled to attack the problem.

The Shavano Valley is well inside the boundaries of the historic Ute country. There are no valid records to tell how long the Utes have inhabited this territory or who, if any, preceded them. Their sojourn here would appear to have been long. In the absence of any conflicting data, the Shavano petroglyphs are therefore to be classified as Ute products. Nothing inherent in the attributes of the figures themselves is positively contradictory to such an assumption. The occurrence of two or more peculiarly different general types of petroglyphs at one site may be due to individual peculiarity on the part of the workmanship of different artisans, to peculiar changes in the ideas and workmanship of the same local group of people from one generation to another influenced by an infusion of new ideas from surrounding groups, or to migratory habits of a people within its own boundaries resulting in a given area being inhabited or temporarily possessed by first one nomadic group and then another.

In regard to the last possibility, there is an old trail passing down from the plateau into the eastern end of the petroglyph ravine of the Shavano Valley, extending along the talus slope through the group of petroglyph rocks and climbing again to the plateau summit at Site VII. This trail, indicated by the dotted line on Fig. 22 is very old according to reliable informants and was used by wandering bands of Utes well within the memory of old inhabitants. The trail, especially at its western end, is readily discernible today although it is not in present use by anyone. The occurrence of the petroglyphs on either side of

this trail suggests that many at least of the figures may be the product of passing visitors to the locality rather than that of sedentary inhabitants. The historic nomadic habits of the Utes favor such an interpretation of the facts.

But the old type figures at least would seem to be too uniform in type to result from the handiwork of various visiting groups of nomads, unless indeed they represented a surprisingly uniform and conventionally limited culture common to all, or unless the same group continuously returned to the place. Before the advent of the horse the Utes undoubtedly found it much less convenient or desirable to make long journeys than was true afterward. Consequently their culture was more isolated and must have been to a relative degree more uniform and convention bound. With the horse came a closer contact with neighboring peoples and a relatively greater infusion of traits from neighboring cultures. The result to the Utes would be a much less uniform culture carrying many strongly surviving old type peculiarities partly transformed by and well intermixed with new ideas incorporated from some of the surrounding Piute, Gosiute, Navaho, Pueblo, Apache, Cheyenne, Arapaho, Shoshoni and other cultures. The influence of the plains cultures upon that of the Utes after the introduction of the horse among the latter people is a well established fact. This influence is easily discernible in the late Ute petroglyphs.

It is probable therefore that the old type Shavano petroglyphs are the somewhat uniform product of a foot-traveling more isolated culture while the new type petroglyphs show the mixed motifs and ideas of a horse traveling people under the new influence of many neighboring cultures, particularly those of the plains.

The occurrence of peculiar Shavano motifs among the petroglyphs of other provinces is not common, but a few examples certainly tend to stimulate the student's interest. I refer particularly to the hoof forms or tracks, so plentifully represented among old type Shavano figures, and identically formed tracings of undisputed primitive origin occurring

in Ohio and Pennsylvania. This similarity cannot be lightly evaded. The motif, while simple, is decidedly peculiar and it is hard to conceive of two petroglyph sites bearing many exactly parallel examples of so curious a form as the result of independent endeavor. Other similarities between pictograph motifs of the Shavano Valley and those on the rocks of Ohio and Pennsylvania are noticeable, but the similar forms are of so common an occurrence at many other sites the world over that alone they do not justly warrant the comparison. Their value as comparative material hangs upon, rather than supports, that of the associated hoof-print forms. If the possibility of independent origin seems improbable, it is equally difficult to conceive of any cultural connection between the Utes or other Colorado Indians and the Erie, Susquehanna or other far eastern tribes. In this case parallelism on the one hand, or cultural relationship on the other, seems more improbable than that we have here an extraordinary example of diffusion. In this connection it is worthy of note that the figures at both eastern and western sites are old, fashioned before the horse became a factor in diffusion across the great plains. A reasonably complete record of pictographs representing the native cultures which lay between Colorado and Ohio would undoubtedly furnish either positive or negative evidence on the diffusion theory, but no such record exists as such in available form.

In summary, a primary survey of Shavano Valley petroglyphs seems to indicate that they are to be divided into old type and new type classes. The old type represents a comparatively uniform isolated culture, though possessing strong indications of influences (a) penetrating the Ute territory from far abroad, (b) emanating from the Ute territory to make its influence felt far abroad or (c) diffusing to both eastern and western places of occurrence from an unknown common source. The new type represents a culture enriched in variety by the infusion of ideas from several surrounding cultures, particularly those of the plains,

probably augmented by the advent of the horse. This new type seems to be in large part characteristic of the late or historic Utes. The situation of the petroglyph sites in the Shavano beside an old Indian trail, coupled with the accounts of early settlers in the district, indicates that the etchings are more apt to be the product of temporarily camped bands of nomadic wanderers than of sedentary inhabitants.

Craig Petroglyphs

Situation

North of and immediately outside the inhabited outskirts of Craig, Colorado, a prominent cliff of yellow sandstone extends in an east and west direction with its nearby perpendicular face fronting on the town. This cliff face is practically covered with tracings. The majority of these consist of names, initials and similar European products. But scattered among these spurious marks of civilization, often largely defaced by them, are pictures and designs of an older, primitive origin. This is not only evidenced by the nature of the designs but by the comparatively darker coloring which chemical action has produced upon the exposed surfaces of the etchings. This discoloration is not so dark as was the case on the rock surfaces of the Shavano Valley, but the old type petroglyphs and the long exposed surfaces at Craig are about equally discolored.

Seventy primitive figures were observed at this site. Tracings were obtained of thirty-eight of these. The remainder were of a size or situation that made tracing impractical under existing circumstances. These figures were carefully copied in freehand.

Classification Groups

The primitive drawings are not of one age or type. The comparative extent of chemical discoloration divides them into two groups which, as

in the case of Shavano Valley groups, are called herein old type and new type. Of the seventy figures observed, thirty-seven are old and thirty-three new. Old and new tracings are not to any extent naturally grouped according to type but are as thoroughly intermixed with each other as they are with the initials, love signs and other characters of modern inhabitants. These two groups differ as much in style as in age as the following pages shall endeavor to show.

The workers' technique is in every case primarily that of grooving. Pecking is employed in a few instances to fill in a solid block previously outlined by grooves. There is no difference between old and new types in this respect. This apparent similarity may, however, be entirely imitative on the part of the new figures rather than constituting an argument for affinity between the old and the new. The fact that non-primitive letters, words and signs coexistent with the Indian products are likewise invariably grooved certainly does not establish an affinity between European and Indian producers.

Gravers

No implements were found that could have been employed as gravers but the rather homogeneous nature of the stone surface would allow the use of any pointed hard stone, bone or piece of antler to produce similar grooves.

Motifs

The range of motif is diversified including many straight lined and curvilinear figures of a conventional appearance as well as a number of realistic subjects, the latter chiefly animate. The following chart serves to show the numerical importance of various motif groups of both the old and new types.

Old type motifs. From the above chart it can be readily seen that the old type is rich in straight-lined conventional figures such as simple

TABLE 5

Motif Chart of Craig Petroglyphs

Motifs	Comparative age	
	Old	New
Conventional designs		
Straight lined figures		
Parallel lines (series of 14; not traced)---	1	
Simple crosses -----	5	
Zigzags -----	1	
Ladders -----	3	
Rectangles -----		1
Checked and criss-crossed patterns -----	1	6
Other simple angular units -----	4	
Tridents -----	4	
Leaf or tree forms -----		1
Straight lined figures with blocked terminals		12
T - shapes (inverted) -----	1	
Straight and curved line complexes		
Wheels -----		1
Unclassified designs -----	3	6
Animate forms		
Miscellaneous animals -----	4	2
Horses -----		1
Mounted horses -----		1
Anthropomorphic figures -----		1
Tracks		
Footprints -----	8	1
Hand forms -----	2	

crosses, tridents, ladders and other simple angular units. Foot tracks are common and hand forms present. Figures including positively curved lines of design importance and anthropomorphic representations are absent.

New type motifs. The new type figures show no marked avoidance of curved lines. Straight lined figures are dominated by checked and criss-crossed patterns and by a type of angular composition marked by terminals that are blocked by means of short cross lines. Figures making use of curved lines include a comparatively large number of unclassified forms of sufficient complexity but non suggestive outline to make any present attempt at an interpretation unprofitable. Tracks have a single representation. Animate figures are not plentiful. They include horses, one mounted, and an interesting anthropomorphic form. The more simple straight lined unit figures and hand forms are absent.

Old Type Figures

The older drawings resemble to a surprising extent a conventional type of petroglyphs found on the Mesa Verde. The motifs, including as they do parallel lines, simple crosses, zigzags, ladders, a checked pattern, tridents, and example of the T - door shape, and hand forms, and including no important motifs not present on the Mesa Verde, offer a sufficient foundation for such a comparison. The same dominance of conventional designs prevails at both sites. The highly developed conventional designs found on house stones on the Mesa Verde, a peculiar development of petroglyph art in that province, are of course absent at Craig since there is no evidence of primitive stone houses near Craig. In fact cliff or mesa house ruins have not been located at any point nearer than two hundred miles from Craig, although I obtained photographs of stone graineries situated northwest of Craig in the Bear Canyon district.

The foot tracks at Craig are more typical of other Shoshonean representations than of the usual Pueblo tracks. But the large number of

animal figures often cited as a Shoshonean marker are absent. The spiral, so commonly occurring on the Mesa Verde, does not occur at Craig.

A study of individual designs among the old type petroglyphs discloses some remarkable Mesa Verde tendencies as well as some marked differences. The ladder shapes at Craig to all appearances might have been taken from the building stones of Far View House (Fig. 47a). The T-shaped checked pattern of Craig (Fig. 47b) is not found on the Mesa Verde but its general tone is Mesa Verde. The tridents and crosses at Craig (Fig. 47c and 47d) are exactly similar to those of the Mesa Verde, though they occur with less comparative frequency at Craig. The simple Craig example of the T-shape (Fig. 47e) perfectly reflects in every line the T-shapes at Petroglyph House on the Mesa Verde. The inverted position is unusual but not unique and has at least one parallel instance at Petroglyph House. Some of the small simple units of geometrical design at Craig (Fig. 48a) are not exactly parallel to any Mesa Verde figures. They are not, however, out of sympathy with Mesa Verde motifs in general.

A long zigzag, a triangle intersected by a long straight line, and a small simple criss-crossed pattern (Fig. 48b) have not sufficient character peculiarity to deserve comparison with any particular province of southwestern petroglyphs. One old Craig figure (Fig. 48c), roughly resembling a corn stalk, is very like certain avowed totemic signs described as occurring at Oakley Springs, Arizona (Mallery 1893:329-330), but a single instance of similarity of this sort hardly warrants comparison.

The old Craig hand figures differ in that one is an impression outline while the other attempts to outline the hand rather than its impression and includes the wrist and part of the forearm (Fig. 49a). The impression type is like the Mesa Verde hand forms. The writer superimposed his hand upon a Craig hand form, and the general sameness of the lineation of petroglyph and the actual hand outline lead me to believe that the Craig artist used an actual hand impression or outline to guide him in his work.



Fig. 47. Craig Old Type Petroglyphs

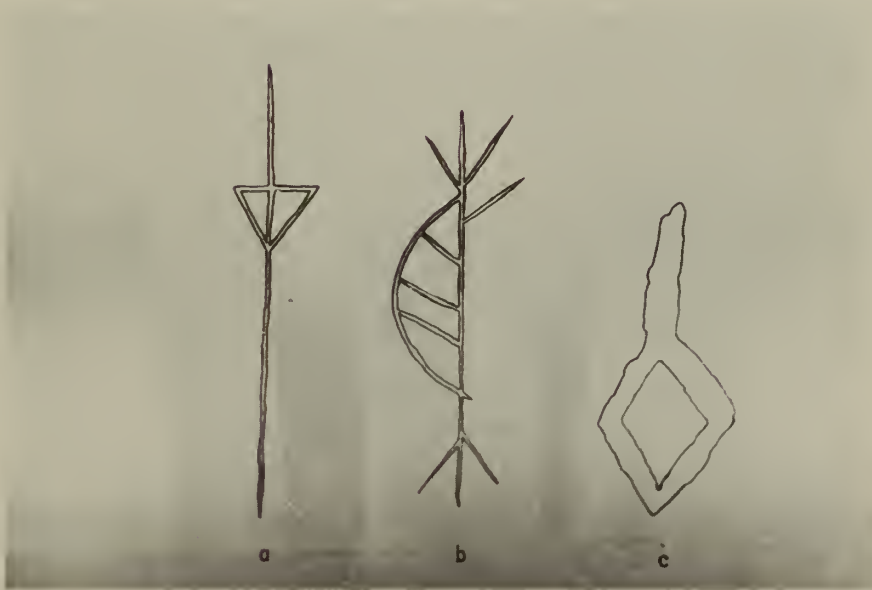


Fig. 48. Craig Old Type Petroglyphs.

The old type foot impression forms are quite different from those of the Mesa Verde. The latter are apparently representative of human feet while the Craig drawings, like most of the Shavano foot forms, are probably representations of animal tracks. Their geometrical tendencies may be largely attributed to the grooving technique employed. At least two of the drawings indicate animalistic toenails (Fig. 46b). Three figures show the transverse cross ridge situated just posterior to the toes, a peculiarity so characteristic of many of the old type Shavano Valley foot forms. Detached toe impressions characterize three figures (Fig. 49c). A strong tendency to conventionalize is shown in at least three of these instances (Fig. 49b).

Only four animal forms occur among the old type Craig petroglyphs, and one of these, a very large figure (Fig. 50a), seems to represent a stretched hide with a round head suggestive of an anthropomorphic conception. The feet of this figure are like the highly conventionalized form. The spaces between feet and legs may be of like order with the transverse ridges discussed above in connection with foot forms.

The remaining three animal forms have peculiarities for which the grooving technique employed by their originators seems hardly responsible. One of these figures deserves particular attention (Fig. 50b). The simplification of all details tending to make the whole suggestive rather than accurately descriptive is interesting and successfully defeats efforts to identify the animal. But the treatment of the feet is especially worthy of attention. Each foot is composed of two parallel perpendicular bars and two dots each situated directly above one of the two parallel lines. The character comprised of similarly disposed oblongs and dots occurs in several widely separated localities in the United States as has been discussed elsewhere in this paper. The disposition and general appearance of these figures suggest the tracks of some cloven-hoofed animal. The Craig figure under discussion supports such an interpretation. The alternative interpretation is that such motifs represent hoofs rather



Fig. 49. Craig Old Type Petroglyphs.

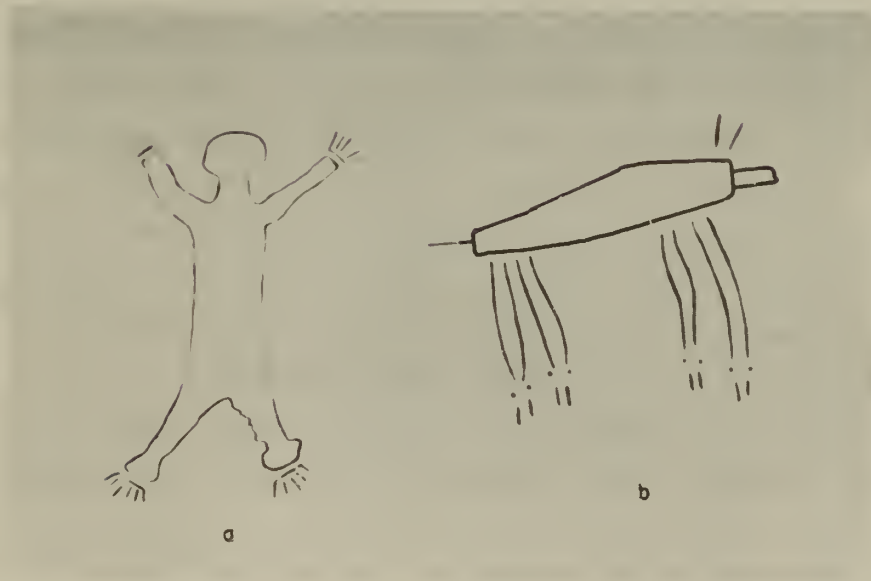


Fig. 50. Craig Old Type Petroglyphs.

than hoof tracks. The two dots would in one case represent the two posterior toes of the hoof and in the other case the impression of these toes. Such an impression would only show in the track of a deer, for instance, when made in deep dust, mire or snow. I am not familiar with the tracks of buffalo, elk or other large wild ungulates. A guess, based upon the hump back and apparent horns of the Craig figure, would identify it as representing a buffalo.

On the whole the old Craig petroglyph figures, aside from foot forms and animal forms, are remarkably like those of the Mesa Verde both in general type and motif detail. The foot forms are not out of sympathy with other old Craig figures but are not parallel to anything on the Mesa Verde. They are more closely allied to the Shavano Valley track forms. Animal forms are too few in number and unlike each other to warrant comparisons.

New Type Figures

The most numerous represented class of figures among the new type Craig petroglyphs are the variously shaped geometric forms having one or more lines terminating in short transversely directed lines. These I have called blocked terminals for want of a better term. Out of twenty-one new type conventional motifs twelve are blocked terminals (Figs. 51b and c). The only other instance of such figures which has come to my attention as occurring among American pictographs was observed in the Shavano Valley. This apparent uniqueness does not signify much since good records of American pictographs are rare and the majority of western petroglyphs have certainly never been described.

The new type figures include several simple combinations of lines disposed to produce combs, checked patterns and criss-crossed patterns (Fig. 51a). These are like similar figures occurring at various Shoshonean sites. One tree or leaf figure is like new type figures in the Shavano Valley. One splendid wheel shape is shown in figure 52. Seven figures (Figs. 53a and b) are sufficiently intricate or non-suggestive as to form to defy classification.



Fig. 51. Craig New Type Petroglyphs.

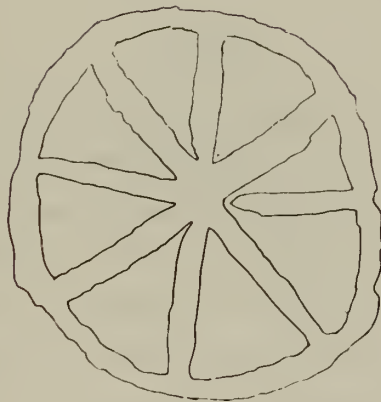


Fig. 52. Craig New Type Petroglyphs.

The single new type foot shape is noteworthy for its angular conventionalization (Fig. 54). Apparent representations of claws imply that it represents the track of an animal, such as a bear.

On the animal figures, two are exceedingly simplified and quite different from the usually recorded Shoshonean animal forms (Fig. 55b). A third is a careful representation of a horse, quite elaborate in detail and to be classified as a rather late Ute product (Fig. 55a). A fourth portrays a man on horseback (Fig. 55c). It is crudely executed but shows all the peculiarities of late Ute work. The above described horse figures show a comparatively small degree of chemical discoloration in the exposed grooves and are therefore probably quite recent.

The only positive example of an anthropomorphic figure at Craig is a new type drawing (Fig. 56). It is very similar to figures found elsewhere at Shoshonean sites. It is especially like an old-type figure in the Shavano Valley and one reported from the Rio San Juan District in New Mexico (Mallery 1893:74-75). The large ear loops in these figures have been interpreted by some to represent the whorls of hair effected by the girls of certain southwestern tribes, such as the Hopi, but might as readily represent ears or the horns of curly horned mountain sheep.

Summary

In sum, the Craig petroglyphs include, first, a series of comparatively old drawings in most respects remarkably like those found on the Mesa Verde, second, a less homogeneous group of more recent drawings quite unlike the old type figures, in many respects conforming to the so-called Shoshonean type, with a few especially close parallels to figures in the Shavano Valley, and in many respects showing pronounced local peculiarities. It is doubtful if these new type petroglyphs are collectively the product of any one small local unit of population. They are as characteristic of Shoshonean work as are figures at the average site so classified.



Fig. 53. Craig New Type Petroglyphs.



Fig. 54. Craig New Type Petroglyphs.



Fig. 55. Craig New Type Petroglyphs.



Fig. 56. Craig New Type Petroglyphs.

Conclusions

The Craig petroglyphs serve again to illustrate the confusing complexity of traits apparent at most important pictograph sites which opportunity has enabled me to visit personally or to study through the reports of other field observers. Seldom does one encounter a single homogeneous type of work to fit a supposed producing culture.

In this respect petroglyph motifs are like other culture products; they do not easily remain confined within a parent culture's boundaries but are found to occur at foreign stations where their presence can only be explained as resulting from diffusion.

At Craig, with no evidence of stone or adobe house culture evident within a radius of hundreds of miles, a group of old stone etchings shows a remarkable resemblance to Mesa Verde petroglyphs in workmanship, style and motif detail. The Craig T-shape, which one cannot keep from mentally associating with the T-shaped doors and petroglyphs of the cliff and mesa house cultures, such as that one primitively inhabiting the Mesa Verde, seems to have no logical place on the cliffs of Craig. The cliff house and pueblo builders were a sedentary agricultural people and would hardly have made trips of hundreds of miles without leaving masonry as evidence of their presence. But where pots are exchanged, so are ideas, and these ideas may bear with them peculiarities in artistic motif as well as in other culture aspects.

Diffusion of local peculiarities within a culture area was more to be expected. Thus the old and new type petroglyph motifs of Craig show strong specific similarities to certain Shavano Valley pictures. Here we see a strange crossing of old and new types. The hoof track motif, occurring only in the old type at Shavano sites, is found only in a new type figure at Craig and a typical Shoshonean anthropomorphic figure occurring in the new type at Craig is nearly duplicated in an old type figure in the Shavano Valley. This goes to show that any connection between time and such elements as style and motif detail must be limited to very local applications.

Petroglyph diffusion will be reviewed and discussed at greater length in a section to follow.

Like the old type Shavano petroglyphs, the old type Craig figures seem to represent a comparatively old and uniform culture but acting under a culture influence quite different from that controlling the products of the former province. The new type figures at Craig are representative of a later, less uniform culture greatly influenced by more than one surrounding culture through a diffusion of culture traits expedited probably by the introduction of the horse. Both old and new types are probably Ute products, but one is a conservative product of a locally peculiar self-sufficient culture while the other is the progressive product of an expanding assimilating culture. Thus there is little in common between the old types of the Shavano Valley and Craig. Each adheres to its own peculiar bias. On the other hand there is much in common between the new types of both provinces in spite of the fact that a greater variety of motif material here would encourage radical differences. The explanation of this may be that, generally, the old types were proof against any but the very strongest outside influences. In each case a different strong outside influence came in to dominate and fortify the local culture against inroads by weaker influences. On the other hand the new types illustrate a period of general expansion when each and every outside influence, weak and strong, played its relatively weak or strong part and the resulting thorough mixture of traits, since all boundary lines were weakened, had a rather large distribution.

Additional Petroglyph Data

Youghal petroglyphs

A few petroglyphs were seen and traced near Youghal, Colorado, on the ranch of Mr. Fray A. Baker. These occur in a cluster near the base of a sizeable cliff of yellow sandstone. Aside from this group no

petroglyphs were found nor are any reported as occurring within the accessible environments of Youghal.

The group consists of seven very closely intervalled figures, although there is no obvious arrangement or order to their disposition. Four mountain sheep, two anthropomorphic figures with short tails or penis representations, and what appears to be an arrow point with a curiously ringed base constitute the motifs (Figs. 57 and 58).

The animate subjects are rather smoothly and deeply pecked and solid rather than in outline. They show a likeness in workmanship and treatment that suggests the work of a single artist. The arrow head (Fig. 57) is grooved deeply and has been carefully smoothed and finished.

Judging from the comparative extent of discoloration due to chemical action upon the broken surface of the stone, the animate figures are of considerably later placing than is the arrow head.

With the possible exception of the arrow head these figures are good examples of a type of pictograph, rich in animal and anthropomorphic subject matter, which has sometimes been confused with the so-called Shoshonean type but which, in the opinion of others, shows strong peculiarities which warrant a separate placing in classification.

Similar sheep and other figures are reported as occurring at Pat's Hole, at the junction of the Green and Yampa rivers, about twenty miles northwest of Youghal.

Gunnison River Petroglyphs

An hour was spent at a petroglyph site which offers probably twice as much material for investigation as does the Shavano Valley. Unfortunately a prearranged program prevented immediate work here. This site consists of some low cliffs of brown sandstone on the left bank of the Gunnison River, two and one half miles south of the state bridge, Delta County, Colorado (Figs. 59-62).



Fig. 57. Petroglyphs Near Youghal.



Fig. 58. Petroglyphs Near Youghal.



Fig. 59. Overview of Gunnison River Petroglyphs, 5DT4.

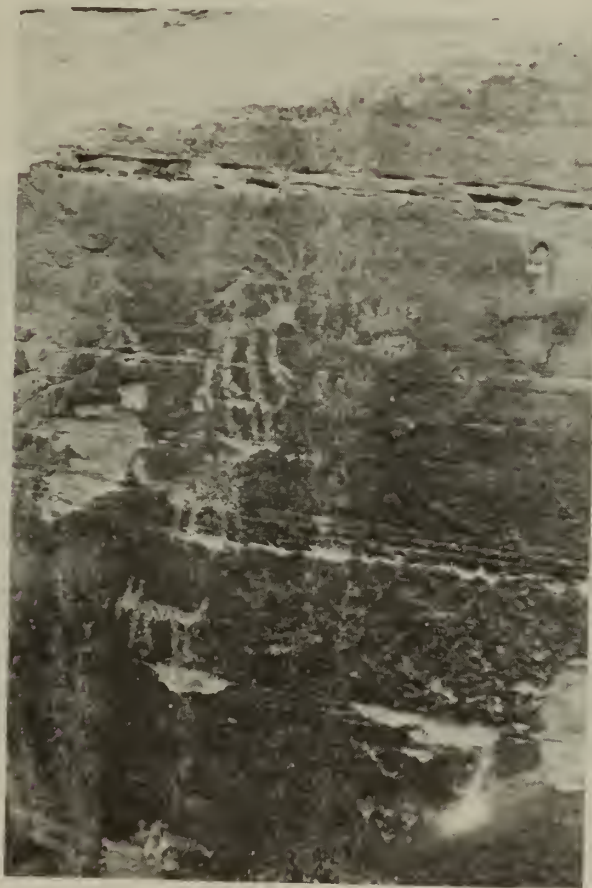


Fig. 60. Animal Petroglyphs at 5DT4.



Fig. 61. Kokopelli-Like Figure, 5DT4.



Fig. 62. Animal and Footprint Petroglyphs, 5 DT4.

Any statement based upon the short observation permitted would be unprofitable. A series of photographs illustrating this site is reproduced in Figs.

Conclusions

The problem of peculiar differences in style, motif and workmanship between pictographs of a given province deserves more attention than the examination of material has warranted previously in this paper. Such differences are probably due to a number of things.

In the first place individual artists undoubtedly had individual peculiarities which were expressed in their work. Petroglyphs differ from many products of primitive art in that they do not serve as decorations for pots, baskets, textiles, implements or other practically useful articles. This fact and a survey of historic petroglyph production leads to the conclusion that practically in all applicable cases men served as petroglyph makers whereas women often exercised other artistic functions. Moreover, a brief survey of the nature of petroglyph motif in the provinces under discussion and the respectful, almost religious attitude towards petroglyphs of the primitive people now living in these provinces, even where the making of petroglyphs continues today, fosters the belief that petroglyphs in most instances, especially when exact definite figures were executed, were the product of a comparatively few men who were recognized as men skilled in such work and popularly respected as such. There is good reason to suspect, although I can offer no definite argument, that some of these petroglyph artists were shamans and the practice of their art a shamanistic function. In any case individual style is a certain element for consideration and, if shamanism, religious cults or peculiar units of social organization were involved, the motif type would likewise be apt to depend upon the individual worker.

Next, there is the possibility of petroglyph donations by foreign artists visiting the locality. Religious or other ceremonies of

importance among the American Indians often brought together people normally living a considerable distance away from the ceremonial site. Traditional enemies often met peacefully on such occasions and each social unit contributed its part to the performance. If petroglyphs had any religious or ceremonial importance it is not improbable that they were sometimes made on such occasions, and by reputed artists from various districts.

The specialization in a certain type involving a peculiar set of motifs at separate stations within a province must also be taken into consideration. Such a thing as local strength of a clan or other social group at a given center of population could exert an influence in this direction. If, in the Mesa Verde, the mountain sheep clan was very strong at Petroglyph house while the snake clan was exceptionally strong at Far View House, providing clan symbolism exerted any influence over petroglyph motif, one would expect to find mountain sheep pictured at the former site and snakes at the latter. Several clans of equal strength at a given site would encourage the production of a diversified series of motifs. Pronounced local specialization on the Mesa Verde supports some such explanation.

Much has already been said in regard to the influence which the nomadic habits of the Utes, especially after the introduction of the horse, probably exerted upon petroglyph art. The rather unimportant differences in style and motif detail between old figures in the Shavano province or old figures at Craig are too easily accounted for in the light of the preceding paragraphs. The wonder is that more pronounced differences did not occur. The greater variety of motifs and styles apparent in new type petroglyphs than in the old type of either the Shavano or Craig provinces is probably directly proportionate to the possible range of nomadic wandering with dogs and on foot on the one hand and with horses on the other. Increased contact with surrounding cultures would undoubtedly facilitate diffusion of ideas and styles as well as of things material.

The most important general conclusion that offers itself, a conclusion already endorsed in the preceding pages of this paper, is that primitive pictograph art, like other culture traits and products, is subject to change and development through diffusion. In the case of the new type figures of the Shavano Valley the apparent great variety in motif and style may be partly explained by visiting groups of nomads each representative of a somewhat different sub-culture group. But such a migration theory could hardly be employed to account for the wide distribution of single peculiar designs such as cross-shaped or ring-eared anthropomorphic figures of a very uniform type, occurring frequently at sites distributed over five such large states as New Mexico, Arizona, Colorado, Utah and California. Nor could it hardly account for the remarkable similarity between old Craig figures and Mesa Verde figures. Certainly it could not explain the occurrence of so peculiar a figure as the ungulate hoof-print forms found occurring in Colorado, Ohio and Pennsylvania.

But every people, whether sedentary or nomadic in its habits, has a certain amount of social intercourse with some of its neighbors. In such intercourse both material and mental products are exchanged. Materials and ideas received from one neighbor may later be passed on to another neighbor. In this fashion materials and ideas often have been known to travel great distances without being literally carried by migrating groups or individuals. Migrating ideas could therefore more rationally explain a distribution of petroglyph motifs over a territory bordered on the east by the Atlantic Ocean and on the west by the Rocky Mountains than could migrating tribes. Such an explanation as the latter is at least more difficult to accept than is the former.

If the theory of petroglyph diffusion is to be accepted, and to the author it seems self-apparent, such terms as Shoshonean type and Moki or Hopi type are not too accurate. If indeed as much was known of petroglyphs as is known of southwestern pottery, for instance, then such terms would be valid. But when a very meager supply of data on western

petroglyphs is available, it is doubtful if the occurrence of a given motif at several sites on Shoshonean territory warrants the inclusion of such a figure in a group classed Shoshonean. A very thorough checking of motifs and styles throughout the country is necessary before it can be determined as to what Shoshonean petroglyph traits really are. It is doubtful if such large classifications of petroglyphs can ever be of any great value since local peculiarities and local infusion of ideas from separate and widely divergent sources would tend to defeat any very inclusive uniformity of traits representative of so large a territory as that covered by Shoshonean stocks.

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